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Maps

INDIÆ
ORIENTALIS
INSULARUM
ADIACENTIUM
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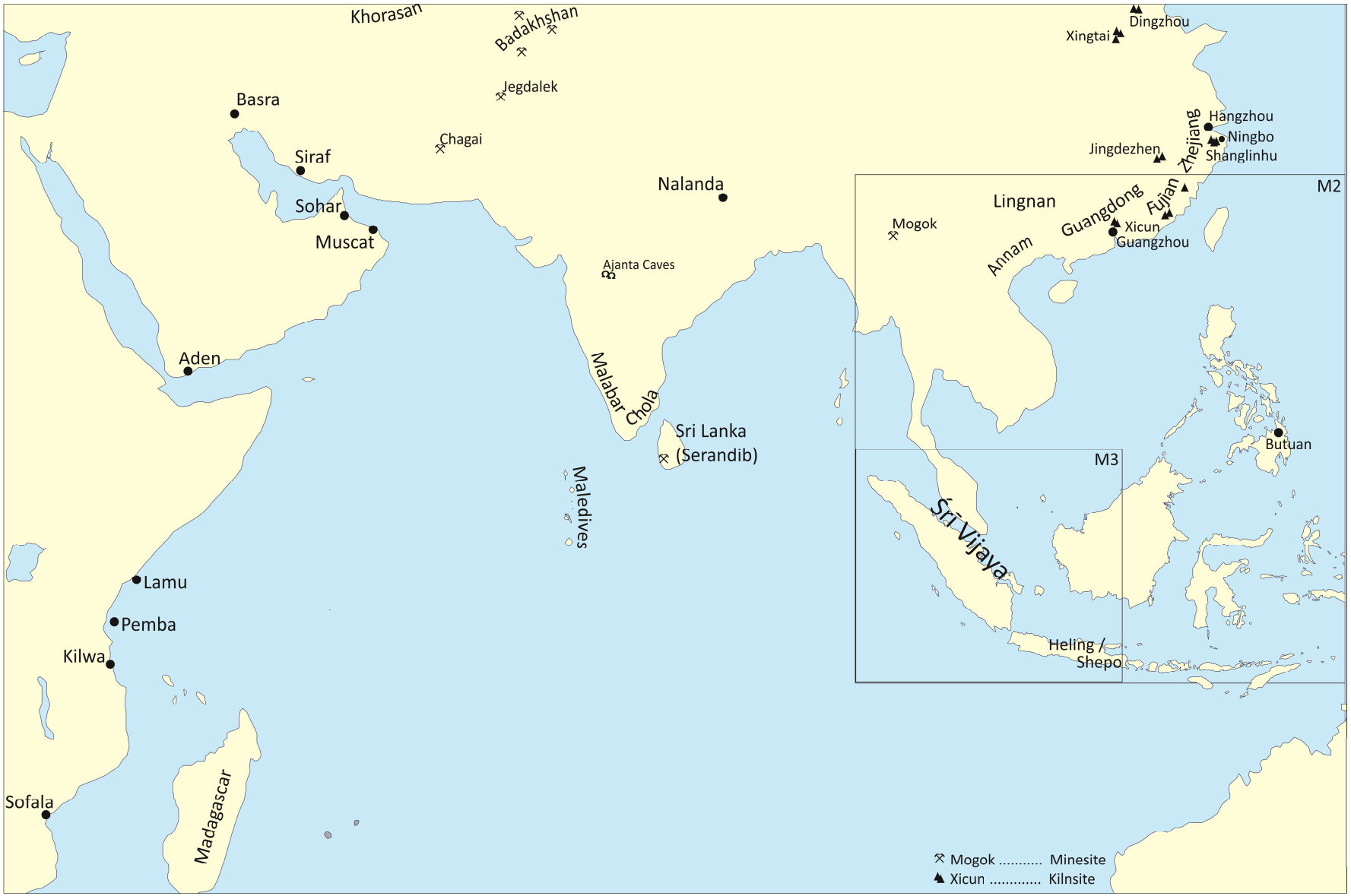
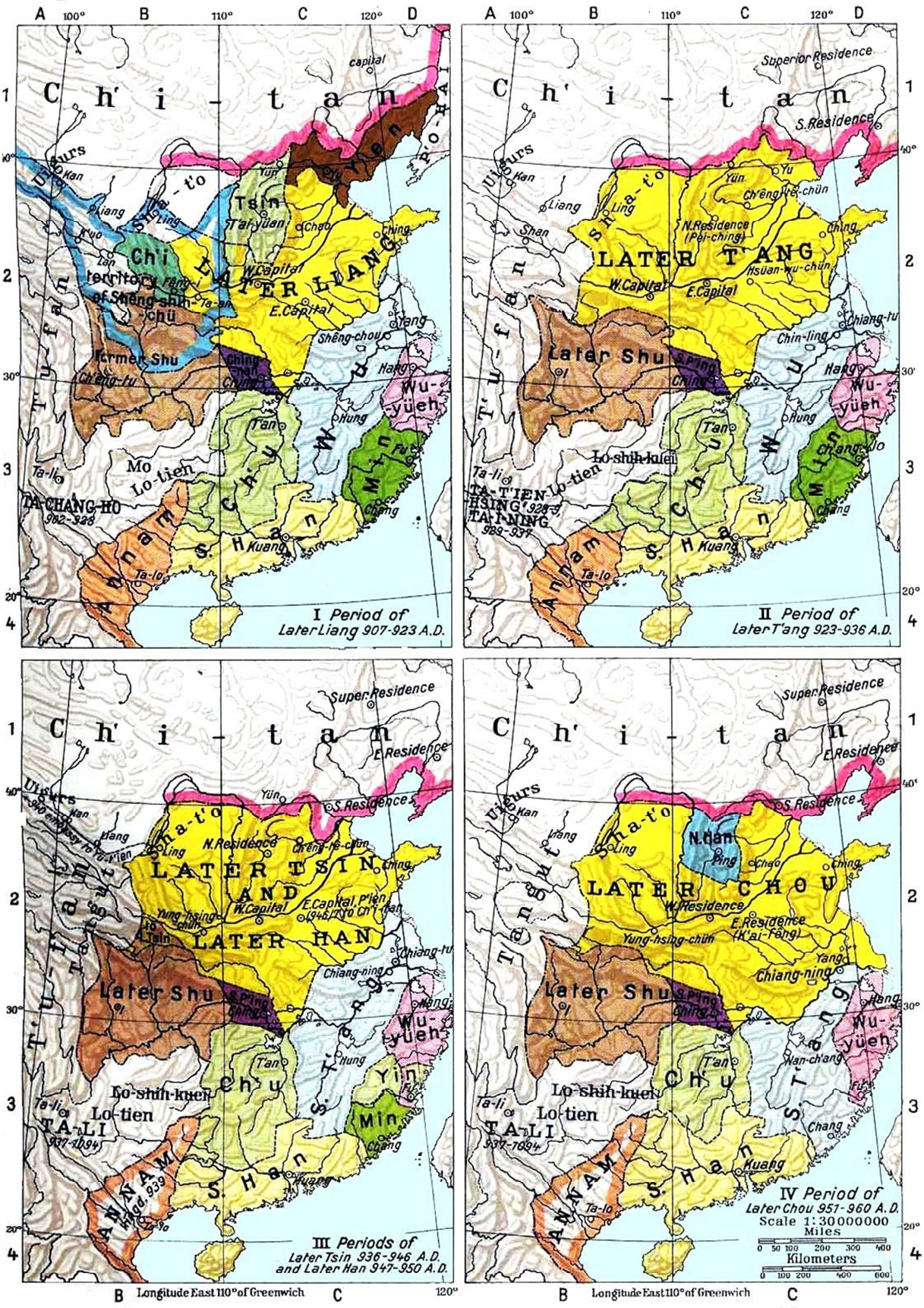
ORIENTALIS.
OCEANUS
CHINENSIS.
LAKE LANTCHIDÓL.
NOVA
HOLLANDIA.



Map 1: Indian Ocean and South China Sea

Map 2: South China Sea and Malay Archipelago.

Map 3: Sumatra and Java.



Map 4: The Wudai Shigou, 'Five Dynasties and Ten Kingdoms', http://www.globalsecurity.org/military/world/china/history-5-dynasties-maps.htm.

0. Writing Conventions

A ship depictured in a manuscript of the La Galigo cycle; photo courtesy Sirtjo Koolhof.

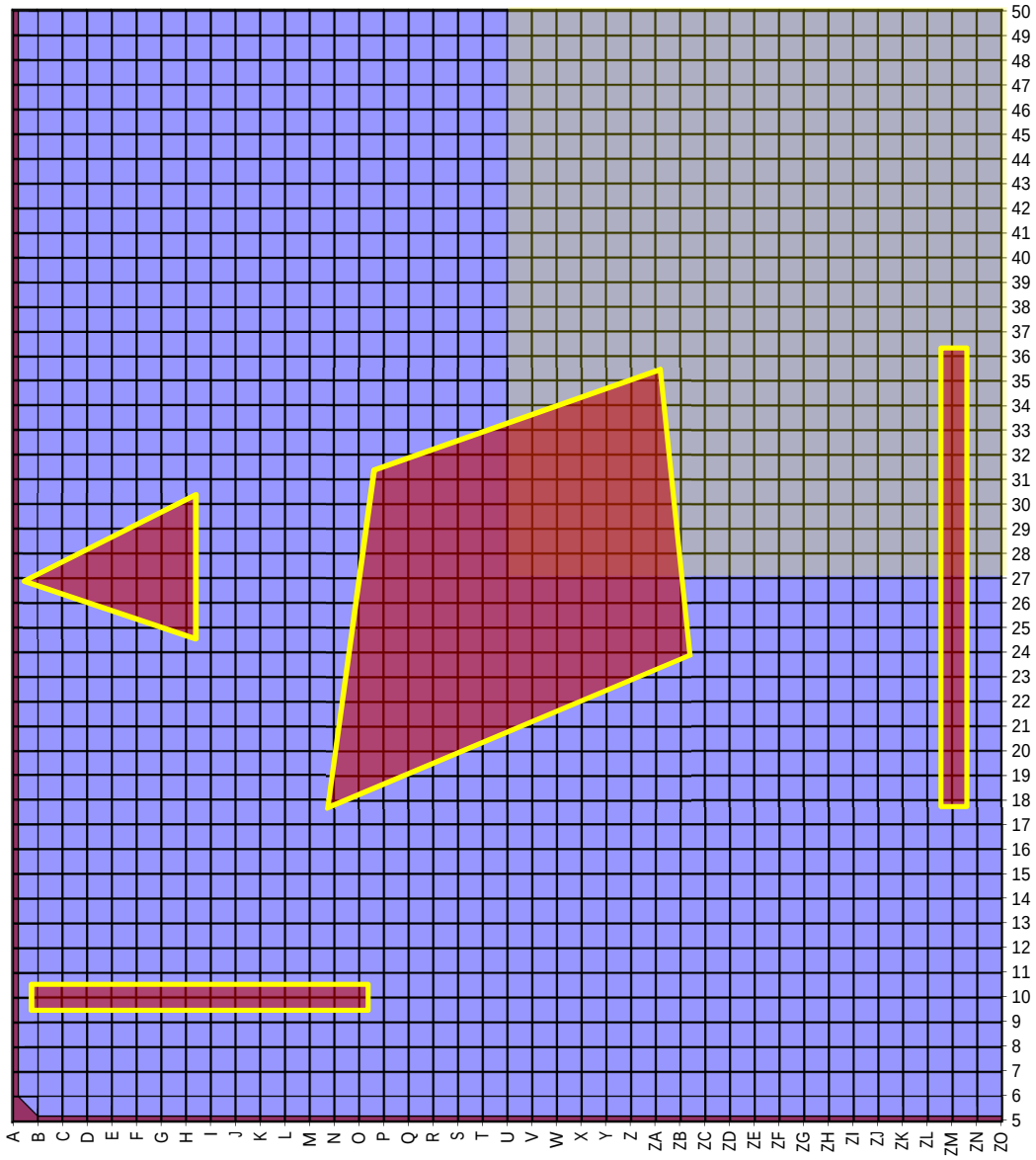


Fig.0-1: References to grid notations.

#	Compass point	Abbr.	Lowest	Middle	Highest
1	**North**	N		0.00°	5.62°
2	North by east	NbE	5.63°	11.25°	16.87°
3	North-northeast	NNE	16.88°	22.50°	28.12°
4	Northeast by north	NEbN	28.13°	33.75°	39.37°
5	**Northeast**	NE	39.38°	45.00°	50.62°
6	Northeast by east	NEbE	50.63°	56.25°	61.87°
7	East-northeast	ENE	61.88°	67.50°	73.12°
8	East by north	EbN	73.13°	78.75°	84.37°
9	**East**	E	84.38°	90.00°	95.62°
10	East by south	EbS	95.63°	101.25°	106.87°
11	East-southeast	ESE	106.88°	112.50°	118.12°
12	Southeast by east	SEbE	118.13°	123.75°	129.37°
13	**Southeast**	SE	129.38°	135.00°	140.62°
14	Southeast by south	SEbS	140.63°	146.25°	151.87°
15	South-southeast	SSE	151.88°	157.50°	163.12°
16	South by east	SbE	163.13°	168.75°	174.37°
17	**South**	S	174.38°	180.00°	185.62°
18	South by west	SbW	185.63°	191.25°	196.87°
19	South-southwest	SSW	196.88°	202.50°	208.12°
20	Southwest by south	SWbS	208.13°	213.75°	219.37°
21	**Southwest**	SW	219.38°	225.00°	230.62°
22	Southwest by west	SWbW	230.63°	236.25°	241.87°
23	West-southwest	WSW	241.88°	247.50°	253.12°
24	West by south	WbS	253.13°	258.75°	264.37°
25	**West**	W	264.38°	270.00°	275.62°
26	West by north	WbN	275.63°	281.25°	286.87°
27	West-northwest	WNW	286.88°	292.50°	298.12°
28	Northwest by west	NWbW	298.13°	303.75°	309.37°
29	**Northwest**	NW	309.38°	315.00°	320.62°
30	Northwest by north	NWbN	320.63°	326.25°	331.87°
31	North-northwest	NNW	331.88°	337.50°	343.12°
32	North by west	NbW	343.13°	348.75°	354.37°
1	**North**	N	354.38°	360.00°	

Fig.0-2: Compass bearings and nautical directions.

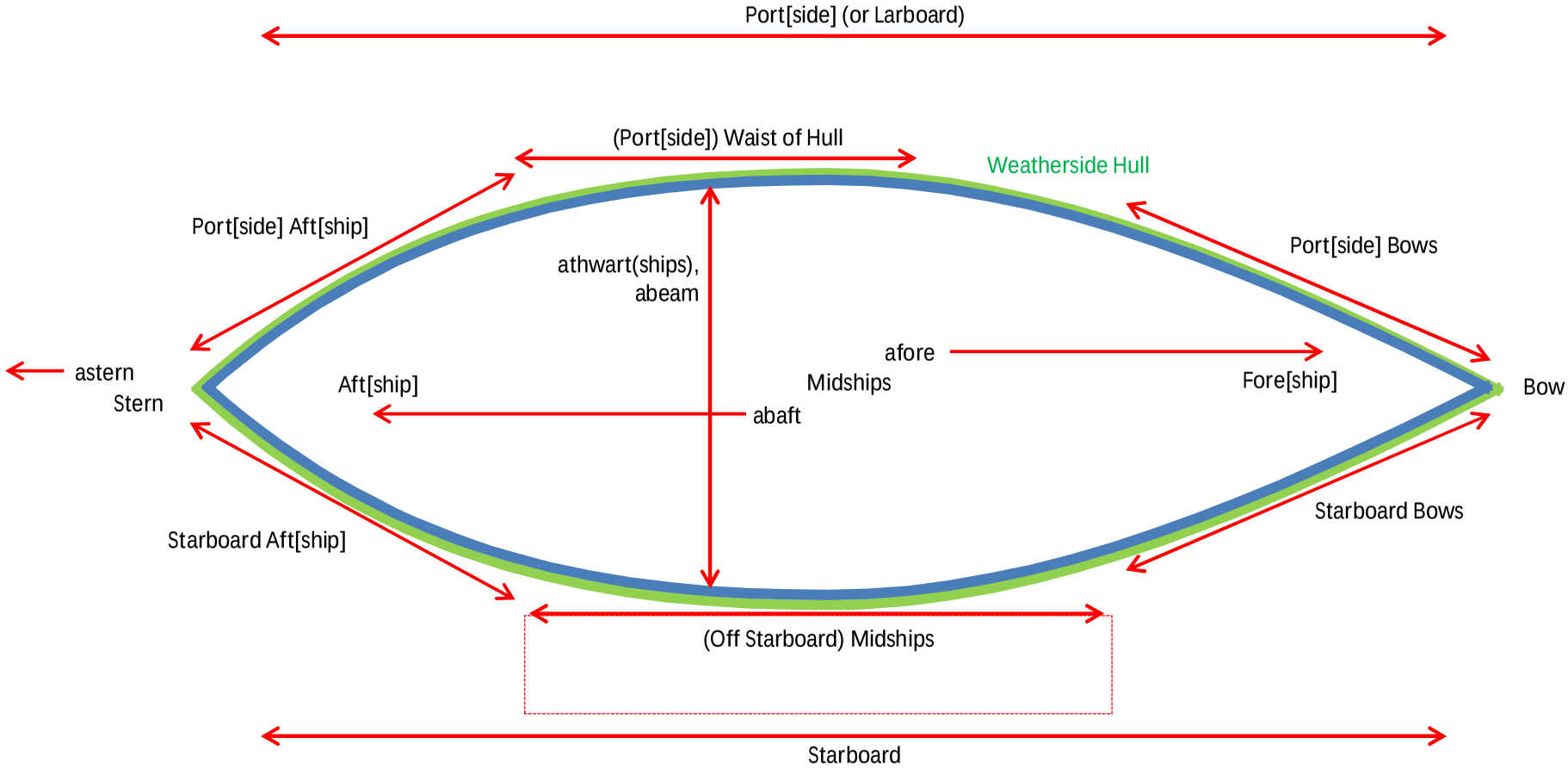


Fig.0-3: Shipboard directions.

1. Introduction

Lotus jars on classification table aboard MV *Siren*, September 2005

No.	Site code	Depth	Comments	Status
1	BEL-002	46m	Mound of ballast stones, 14 martabans (small size), ceramic mortar, sand/mud seabed.	**Undisturbed**
2	GAS-003	7m	Reported site with several martaban jars and broken celadon plates.	Heavily disturbed
3	GAS-006	31m	Blue/white porcelain, dishes, Bowls, Large hill of ceramics.Quing Dynasty)	Excavated
4	GAS-011	24m	Rigging pieces, wood timbers, 2 iron gudgeons, all buried in sand.	Heavily disturbed
5	GAS-009	18m	Wood structure sheathed with copper, fragments of BW porcelain, rigging pieces, buried in sand.	Heavily disturbed
6	BEL-003	37m	Ship structure copper nails, 2 iron cannon, broken anchor, fragments of green glass, ceramic vase.	Heavily disturbed
7	GAS-004	28m	Ship structure copper sheathing, ballast, bottles, blue and white porcelain. Late XIX century, English?	Heavily disturbed
8	BEL-004	30m	European wreck, Arabic silver coins (date 1800),chinese copper coins, 2 iron cannon.	Lightly disturbed
9	GAS-010	26m	Modern ship, no archaeological interest	No Arch Interest
10	GAS-007	18m	Blue/white porcelain fragments, copper sheathing, rest of wood structure. Early XIX century, *Alceste*?	Heavily disturbed
11	GAS-015	23m	Fairly modern, wood structure with iron frames and a large steel box,	Heavily disturbed
12	GAS-016	18m	Large wooden ship, partially covered with silt. App 30m long.	Heavily disturbed
13	GAS-017	18m	Coralline formation (hill), with a height of 5m. App 35 x 9m.	Heavily disturbed
14	GAS-002	23m	Several martabans, coarseware kendis. Assessed. Very early local trader	Lightly disturbed
15	GAS-005	15m	Several martabans, coarseware kendis. Assessed. Very early local trader	Heavily disturbed
16	BST-001	13.6m	Highest concentration of porcelain, some stacks, broken bowls. Quing Dynasty)	Looted
17	GAS-001	20m	Broken ceramics, celadon broken plate, Martaban neck recovered. Extensive sondages	Looted
18	GAS-008	23-25m	Celadon bowls, martaban jars, many chinese coins, wood structure.(IX Century!)	Looted
19	GAS-014	6m	Scattering of celadon ceramics on the seabed.Previoulsy worked. NFA	Looted
20	BEL-006	6m	Wood structre, large anchor, all covered by the coral. XIX century ship	Few remains
21	BEL-005	34-38m	Possibly the *FORBES*, NRA recovered app 35,000 silver coins. Excavated.	Excavated
22	Simedang 2	30m	Large scattering of ballast stones, 1 iron carronade (more survey needed)	Unknown
23	GAS-018	56m	XIX century European wreck with Ching ceramics.	Lightly disturbed
24	Simedang 1	40m	3 bronze swivel guns, blue and white (few), Complete survey done	Looted
25	GAS-013	30m	European wreck, iron cannons, ballast, poss late XIX century.	Lightly disturbed
26	GAS-012	30m	European wreck, Charcoal, wood copper sheathing, bottles (Liverpool), poss late XIX century.	Lightly disturbed

Fig.1.1-1: Reported condition of 26 wrecksites investigated in joint surveys of Indonesian Ministry for Tourism and Culture and salvage company, Arqueonautas Worldwide, 2007-10.

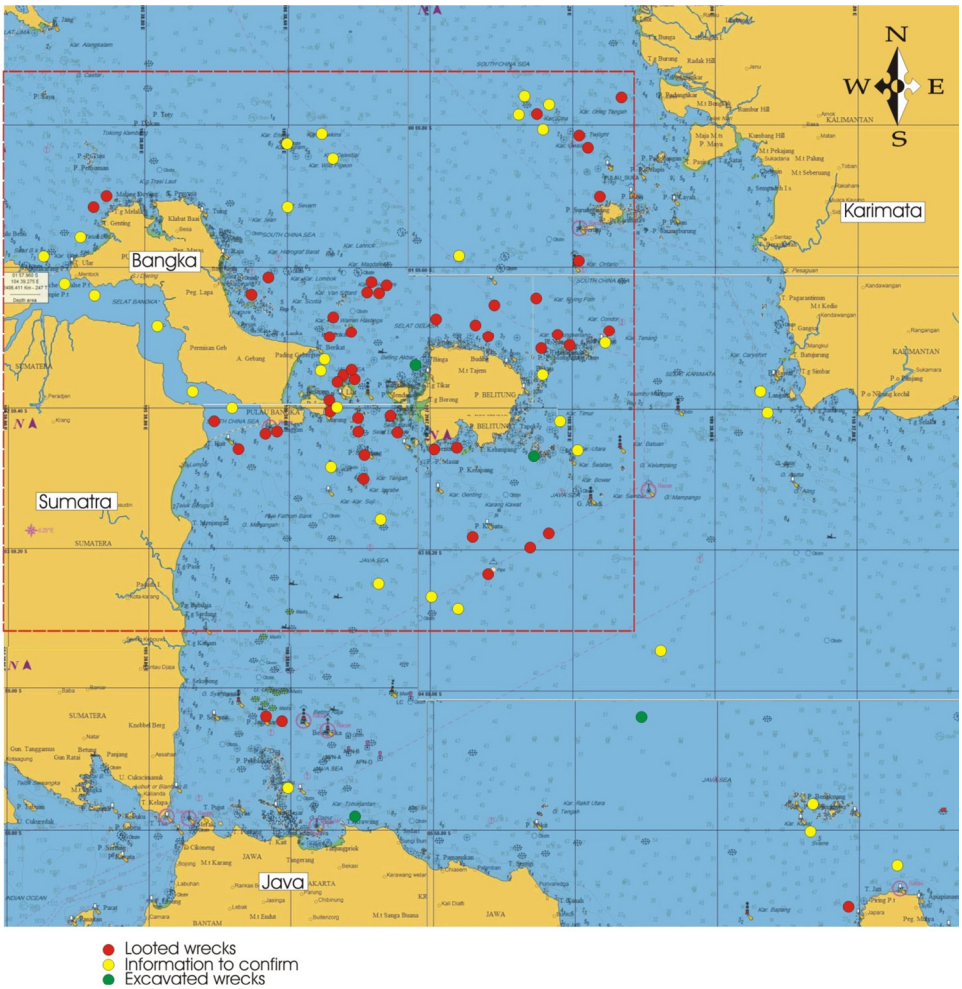
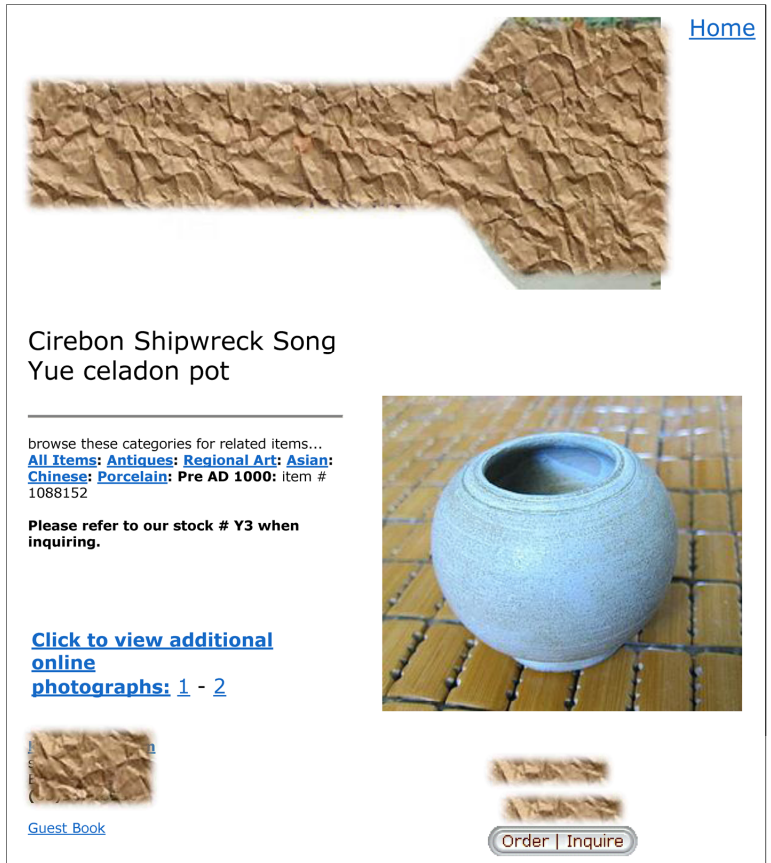


Fig.1.1-2: Overall area of survey (courtesy Ministry for Tourism and Culture and Arqueonautas Worldwide).



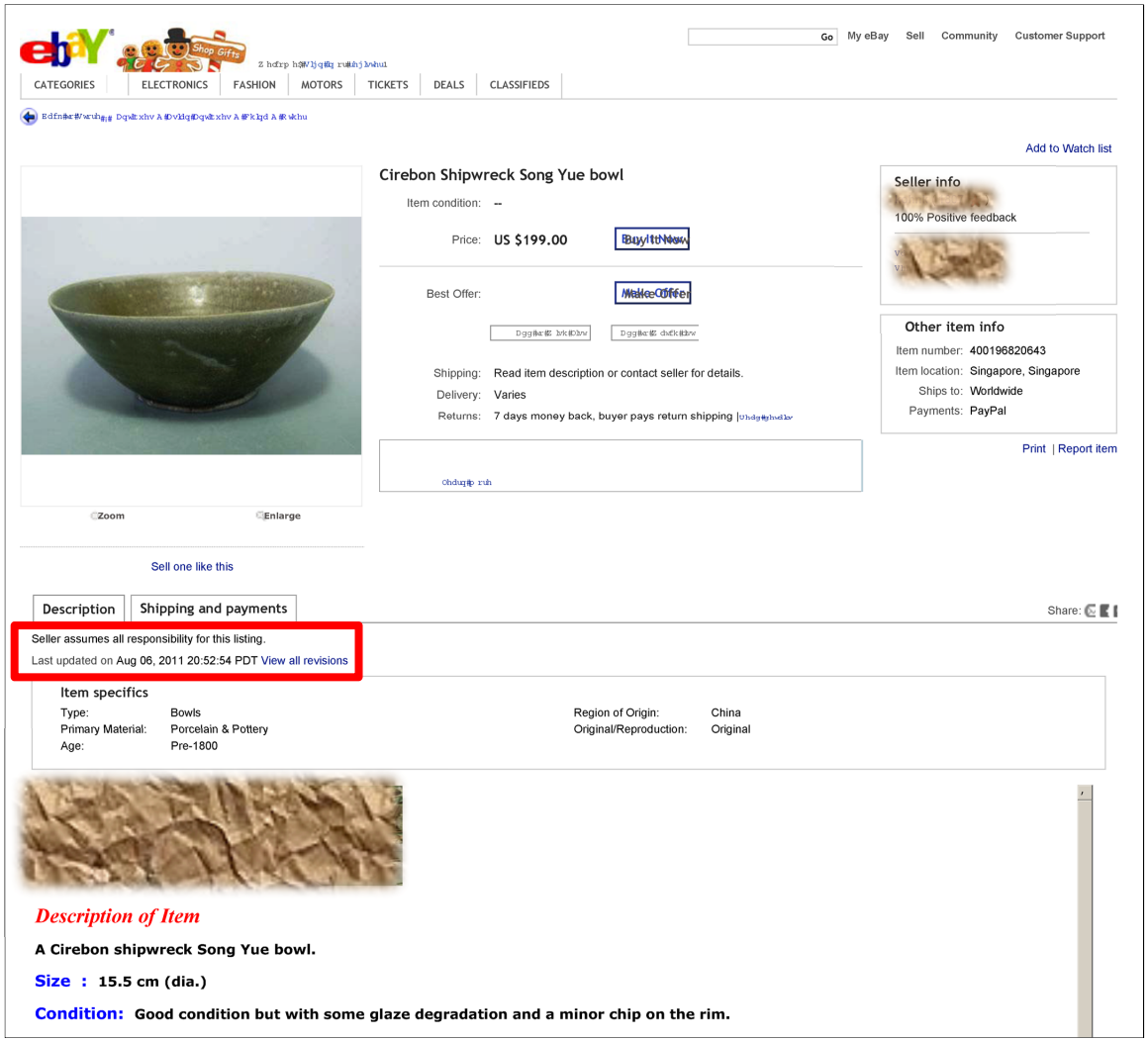


Fig.1.1-3: Discontinued internet offers of ceramics reputedly from the Nan-Han/Cirebon wreck; last accessed 2011-11-05. Cont. …

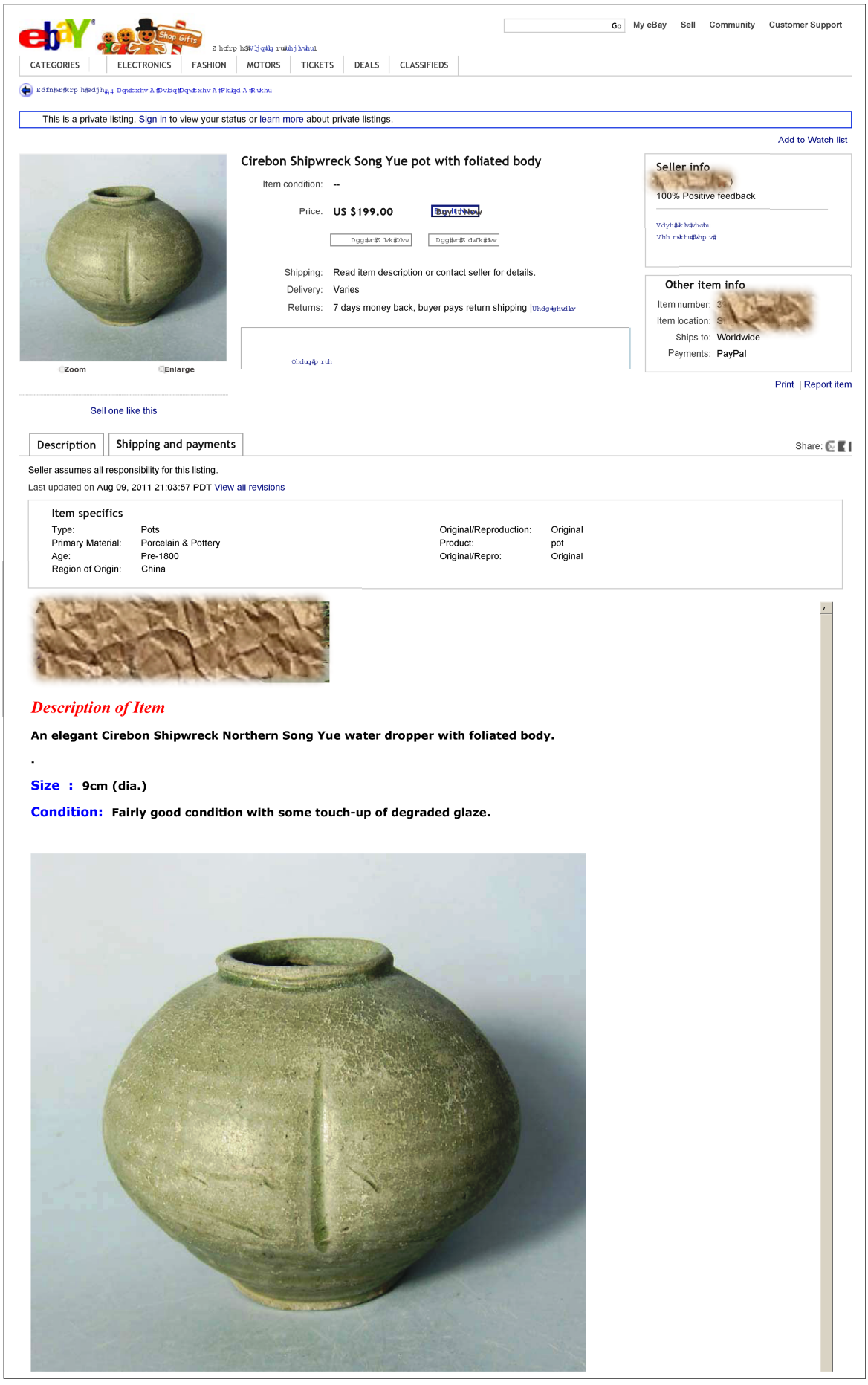


Fig.1.1-3, cont.: Discontinued internet offer of ceramics reputedly from the Nan-Han/Cirebon wreck.

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The Cirebon shipwreck off the coast of Cirebon, West Java, Indonesia dated to late Tang dynasty (5 dynasty period) was another great shipwreck discovery of South East Asia in year 2005. It was the second earliest Chinese cargo salvaged that loaded with tons of valuable Chinese porcelain and artefacts apart from Belitung Shipwreck.

Code	Description	Qty	Price
c*Cirebon* .....*Shipwreck*		*Yue yao*	

The artifacts displayed here were derived from Cirebon shipwreck. Authenticity guarantee

	Heavy encrusted typical Yue yao ware of 5 dynasty with a very thin layer of green glaze applied on the high fire greyish porcelainous biscuit. Original unclean condition with some green glaze intact. The firing saga mark visible at bowl center and base. No hairline and restoration. D-18.7cm, H-5.5cm	1 nos	Sold
Serial no: ABS10881	**Extra: 1, 2,3, 4, 5**		
	One of the smallest Yue yaobowl found from this shipwreck with about 60% brownish yue glaze ware. of 5 dynasty with a very thin layer of green glaze applied on the high fire greyish porcelainous biscuit. Original unclean condition with some green glaze intact. The firing saga mark visible at bowl center and base. No hairline and restoration. D-14.3cm, H-5cm	1 nos	Sold
Serial no: ABS10882	**Extra: 1, 2, 3**		
	Moderate encrusted typical Yue yao ware of 5 dynasty with a very thin layer of green glaze applied on the high fire greyish porcelainous biscuit. Original unclean condition with some green glaze intact. The firing saga mark visible at bowl center and base. No hairline and restoration. D-15.7cm, H-7cm	1 nos	Sold
Serial no: ABS10883	**Extra: 1, 2,3, 4**		
	Moderate encrusted typical Yue yao ware of 5 dynasty with a very thin layer of green glaze applied on the high fire greyish porcelainous biscuit. Original unclean condition with some green glaze intact. The firing saga mark visible at bowl center and base. No hairline and restoration. D-16.5cm, H-6.8cm	1 nos	Sold
Serial no: ABS10884	**Extra: 1 ,2, 3**		
	Largest Yue yao ware discovered with unique foliage rim and a minor chip noted at mouth rim. A very thin layer of green glaze applied on the high fire greyish porcelainous biscuit. Original unclean condition with some green glaze intact. The firing saga mark visible at bowl center and base. No hairline and restoration. D-20.9cm, H-8cm	1 nos	Sold
Serial no: ABS10885	**Extra: 1 ,2, 3**		

Please read the detail below for further understanding on this rare Chinese Shipwreck:-

1. Cirebon shipwreck News
2. Cirebon shipwreck Treasure Going on Sale (Khabar Indonesia)
3. Treasure from a shipwreck off Java up for auction (Intl Heraid Tribune-15.11.2006)

Fig.1.1-4: Internet offer, last accessed 2013-03-05.

			Price	Shipping to CAN	Time Left
	Cirebon shipwreck Song Yue celadon water dropper Location: Feedback: 1,931 | 100%	Top-rated seller Buy It Now or Best Offer	C $174.97	+C $20.59	**Time left:**7d 20h 41m
	5.5"Chinese Song Cirebon shipwreck FISH DING Plate--Egg... China Snake year's Promotion Location: Feedback: 451 | 96.4%	0 Bids Buy It Now	C $61.66 C $102.92	+C $49.41	**Time left:**5h 23m
	AUTHENTIC ANTIQUE-7.8" Chinese Song Cirebon shipwreck J... China Snake year's Promotion Location: Feedback: 451 | 96.4%	0 Bids Buy It Now	C $71.95 C $102.92	+C $44.26	**Time left:**5h 37m
	AUTHENTIC ANTIQUE---7.3" Chinese Song Cirebon shipwreck... CHINA SNAKE YEAR'S PROMOTION Location: Feedback: 451 | 96.4%	0 Bids Buy It Now	C $99.74 C $122.48	+C $46.32	**Time left:**1d 5h 45m

Fig.1.1-5: Various ceramics labelled as 'Cirebon Shipwreck'; above: http://www.ebay.com/itm/Cirebon-shipwreck-Song-Yue-celadon-bowl-/400264653069; below: http://www.ebay.ca/sch/sis.html?_nkw=Cirebon+Shipwreck+Song+Yue+pot+with+lotus+petals+&_itemId=390090594967, both last accessed 2013-03-05. The last three items have no match in the available records of the Nan-Han/Cirebon cargo.

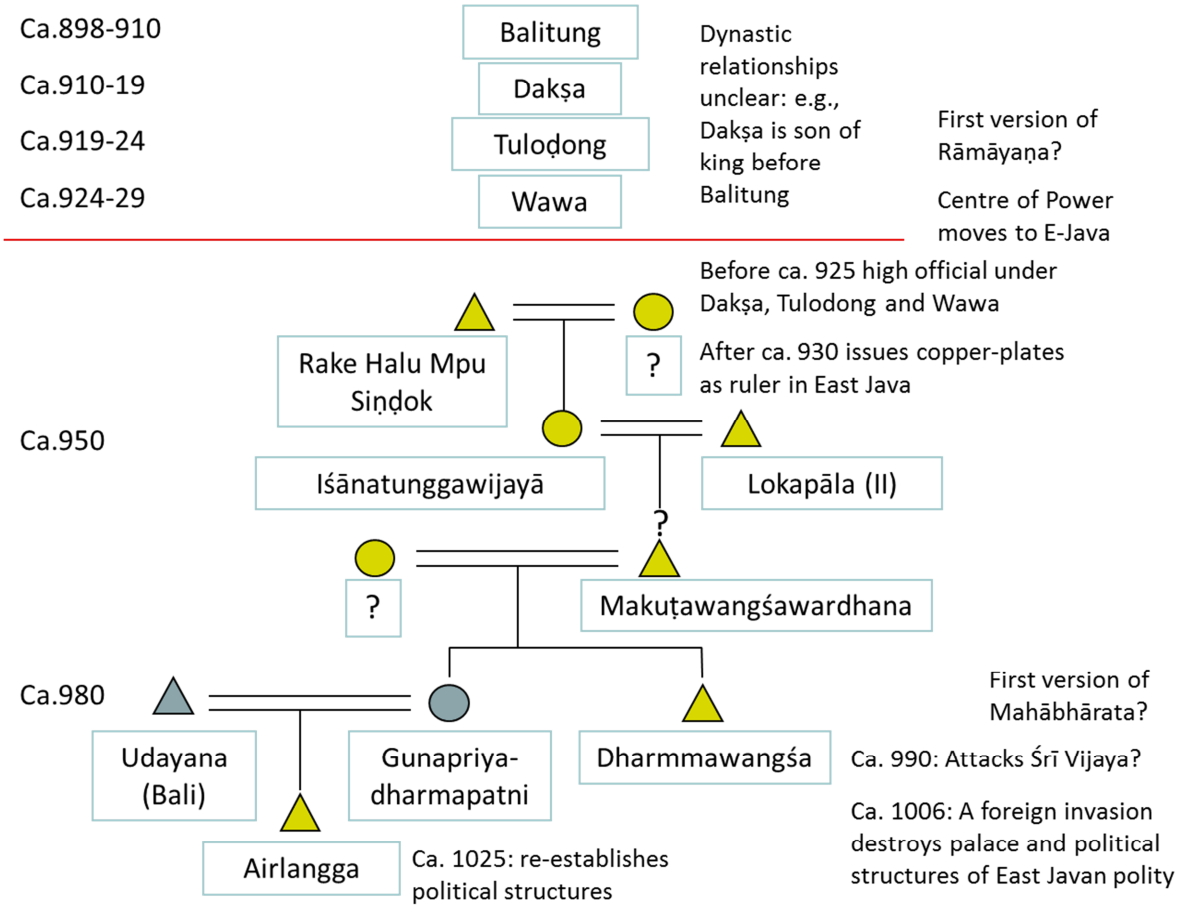


Fig.1.2-1: Genealogy of Java's Iśāna dynasty and its predecessors.

Year	Malay Peninsula				Sumatra					Java				Unident.		Old Malay/ 'Śrī Vijayan' Inscriptions found in …	Quoted in …	Remarks
	Panpan	Dandan	Chitu	Langyaxu	Gantuoli	Moluoyu	(Shili)foshi	Zhanbei	Sanfoqi	Huoluodan	Heling	Shepo	(She[po])Boda	Pohuang	Poli, Boli			
430										X							[1,8,9]	[1,8]Houloudo, [1a]June
433										X			X				[1,8,9]	[1a]Shepoboda, 'summer'; [1ab,8]Houloudan, [1a]June
434										X							[1,8,9]	
435													X				[1,2,7,8,9]	[2]listed under Shepo; [1a]September
436										X							[1,8,9]	
437										X							[1,8,9]	[1a]January
441					X												[1,9]	[1a]'Su-mo-li'?
442														X			[1,8]	[1a]June
449													X	X	?		[1,8,9]	[1a]Boda: July, Boli: June
451													X	X	?		[1,8,9]	[1a]Boda: June, Boli: July
452										X							[1,8,9]	[1a]May
455	X				X									X			[1,3,8,9]	[1a]Panpan, 'Chin-t'o-li': August; Pohuang: March;
456														X			[1,8,9]	
457-64	X																[1,8]	
459														X			[1,8,9]	[1a]March
464														X			[1,8,9]	[1a]August
466														X			[1,8,9]	
473															X		[1,8,9]	
502					X												[1,3,8,9]	[1a]'Chin-t'o-li': September
515				X													[1,3,8,9]	[1a]October
517															X		[1,8,9]	[1a]September
518					X												[1,3,7,8,9]	[3,7]519; [1a]'Chin-t'o-li': June 518
520					X												[1,3,7,8,9]	[1a]'Chin-t'o-li'
522															X		[1,8,9]	[1a]September
523				X													[1,8,9]	[1a]December
527	X																[1,8,9]	
528		X															[1,9]	

Fig.1.3-1: Missions of insular Southeast Asian polities to Chinese courts, 430-1070; cont. …

Year	Malay Peninsula				Sumatra					Java				Unident.		Old Malay/ 'Śrī Vijayan' Inscriptions found in …	Quoted in …	Remarks
	Panpan	Dandan	Chitu	Langyaxu	Gantuoli	Moluoyu	(Shili)foshi	Zhanbei	Sanfoqi	Huoluodan	Heling	Shepo	(She[po])Boda	Pohuang	Poli, Boli			
529-30	X																1,8	[1a] December 529 – January 530
530		X															1,8,9	
531		X		X													1,8,9	[1a] Dandan: July, Langyaxu: October
532	X																1,8	[1a] May
533	X																1,8	[1a] October
534	X																1,8	[1a] September
535		X															1,8,9	[1a] April
540	X																1,8	[1a] September
551	X																1,8	[1a] October
560					X												9	
563					X												1,8,9	[1a] February
568				X													1,8	[1a] October
571		X															1,8,9	[1a] June
571	X	X															1,8	[1a] Panpan: undated; Dandan: November
581		X															1,8,9	[1a] November
584	X																1,8	[1a] December
585		X															1,8,9	[1a] November
592															X		1	
605-17		X															8	
608			X														1,8,9	[1b] April
609			X														1,8,9	[1b] March
610			X														1,8,9	[1b] June
616															X		1,8,9	
617	X	X															8,9	[9] 616 for Panpan, 617 for Dandan
630															X		1,8,9	[1b] joint mission with Linyi
633	X																1	
635	X																1,8	

Fig.1.3-1: Missions of insular Southeast Asian polities to Chinese courts, 430-1070; cont. …

Year	Malay Peninsula				Sumatra					Java				Unident.		Old Malay/ 'Śrī Vijayan' Inscriptions found in …	Quoted in …	Remarks
	Panpan	Dandan	Chitu	Langyaxu	Gantuoli	Moluoyu	(Shili)foshi	Zhanbei	Sanfoqi	Huoluodan	Heling	Shepo	(She[po])Boda	Pohuang	Poli, Boli			
640											X						[1,7,8,9]	[6]627-49(?); [1b]May/June
641	X																[1]	
644						X											[6,8,9]	
647															X		[7]	
648	X																[1]	
649											X						[1,8,9]	[8,9]noted under 648; [1b]March/April
650-5	X																[8]	[7: 74]
666		X									X						[1,8,9]	[1b]August/September
669		X													(X)		[1]	[8: 74]'666-9', and 'possibly' for Poli
670		X															[9]	[9]January - February
670-3							X										[8]	[8: 97]One mission in between …
674											X						[7]	
683																**South Sumatra**[a]		Old Malay
684							X										[7,9]	[7,9]'Malay' merchant/captain murders official in Guangzhou*
684																**South Sumatra**[b]		Old Malay
686																**South Sumatra**[c]		Old Malay
695							X				X						[6,8,9]	Foshi and Heling mentioned on a 'provision list'
702							X										[1,6,8,9]	[1b]January
709							X										[8]	'Kunlun'?
716							X										[1,6,8,9]	[1b]March/April
724							X										[1,6,8]	[1b]July/August
727							X										[1,6,8,9]	[1b]November/December; [6,8,9]noted under 728
742							X										[1,6,8,9]	[1b]January/February
767											X						[1,3,7,8]	[3,7](three) envoys between 766 and 779
768											X						[1,3,8,9]	[1b]May/June

* Schafer 1963: 15; Wang 1958: 75-6; Wolters 1967: 153.

Fig.1.3-1: Missions of insular Southeast Asian polities to Chinese courts, 430-1070; cont. …

Year	Malay Peninsula				Sumatra					Java				Unident.		Old Malay/ 'Śrī Vijayan' Inscriptions found in …	Quoted in …	Remarks
	Panpan	Dandan	Chitu	Langyaxu	Gantuoli	Moluoyu	(Shili)foshi	Zhanbei	Sanfoqi	Huoluodan	Heling	Shepo	(She[po])Boda	Pohuang	Poli, Boli			
770											X						[1,3,9]	[9]769; [1b]December 769/January 770
775																**Malay Peninsula**[d]		Sanskrit, mentioning Śrī Vijayan ruler
792																**Central Java**[e]		Old Malay
813											X						[3,7,8,9]	
815											X						[1,8,9]	[1b]October
818											X						[1,8,9]	
820												X					[1,8,9]	[1b]November; [8]notes both Shepo and Heling as origin
827-35											XX						[1,3,7]	Two missions in between …
827																**Central Java**[f]		Old Malay
831												X					[1,8,9]	[1b]March/April
832																**Central Java**[g]		Old Malay
839												X					[1,9]	[1b]March
840																**Central Java**[h]		Old Malay
852								X									[8]	
850-60																**Northern India**[i]		Sanskrit, grant for Śrī Vijayan monastery
860-73												X					[1,3,7,8,9]	One mission in between …[†]
871								X									[8]	
904									X								[1,2,3,6,7,8,9]	[3,7]905
942																**West Java**[k]		Old Malay
960									X								[1,3,5,7,8]	[1b]September
961									X								[1,3,4,5]	[1b]June
									X								[1,3,4]	[1b]Winter; [4]December 961 – January 962
962									X								[1,3,5]	[1b]April – [4]January 963
									X								[1,5,7]	[1b]December

[†] Related to a number of items 'offered as tribute by Ho-ling and presented in the ninth year of the *hsien-t'ung* reign period (860-873), which corresponds to 868' that were used in the installation of a Buddhist relic in 873 (Wolters 1983: 62)?

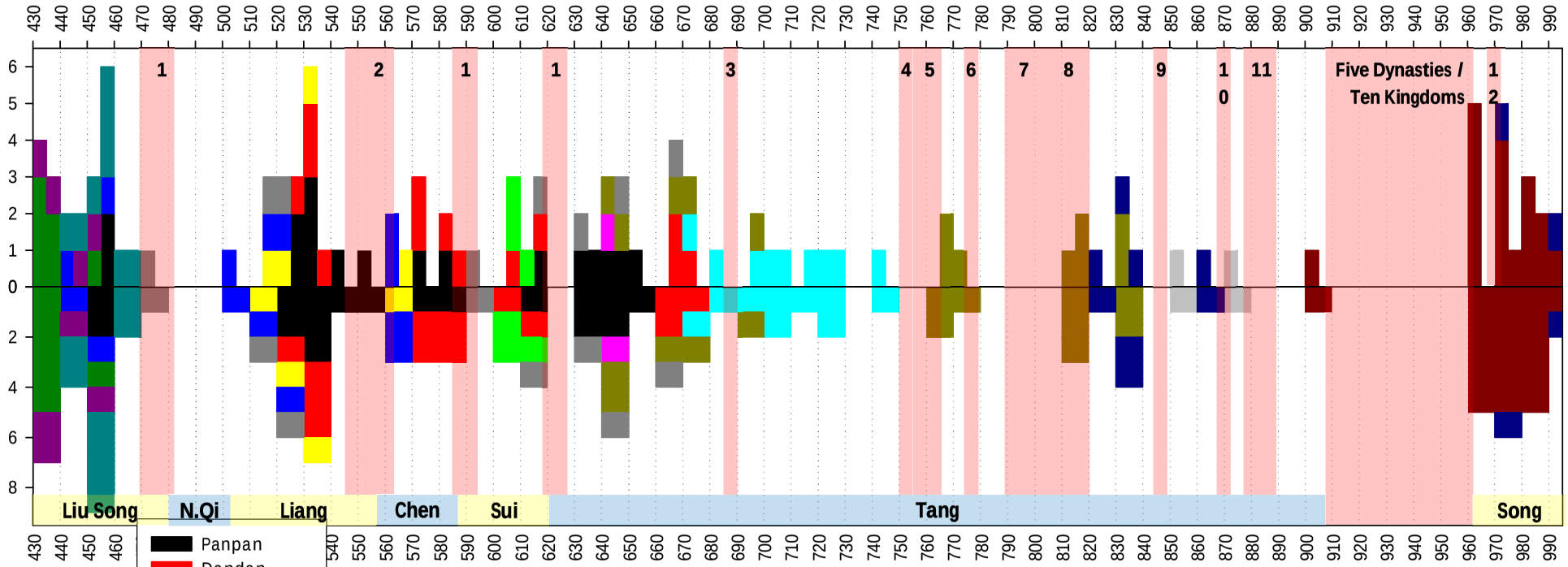
Fig.1.3-1: Missions of insular Southeast Asian polities to Chinese courts, 430-1070; cont. …

Year	Malay Peninsula				Sumatra					Java				Unident.		Old Malay/ 'Śrī Vijayan' Inscriptions found in ...	Quoted in ...	Remarks
	Panpan	Dandan	Chitu	Langyaxu	Gantuoli	Moluoyu	(Shili)foshi	Zhanbei	Sanfoqi	Huoluodan	Heling	Shepo	(She[po])Boda	Pohuang	Poli, Boli			
970									X								[4]	[4]July – December
971									X								[1,3,7]	[1b]April – [4]May
[												X					[4]	An embassy or goods, furthered on to Sung court by Nantang?]
972									X								[1,3,4,7]	[1b]May
974									X								[1,3,4,7]	[1b]April
976									X								[1,3,4,7]	[1b]January – [4]February; [3,7]noted under 975?
980									X								[1,3,4,7]	
									X								[1,3,4,6]	Private trader, arriving at Shantou
983									X								[1,3,4,7]	[1b]December 983 – January 984
985									X								[1,3,4,6,7]	Private trader; [4]March – April
988									X								[1,3,4,6,7]	[4]believes entry to be confused with Japanese mission
990									X								[1,(4)]	[1b]January – [4]February
992												X					[1,2,3,4,6,7]	[1b,4]September, [1b]Hangzhou – [4]January 993
997																**South Sumatra**[l]		Old Malay, claimed Javanese influence in date
1003									X								[1,2,3,4,6,7]	[4]July – October, together with Arab and Butuan (?) missions
1008									X								[1,3,4,6,7]	[4]August – September
1014									X			X					[1]	[1b]referred to in edict
1017									X								[1,3,4,7]	[4]May – July
1028									X								[1,4,7]	[4]September – October
[1079								X									[1,5]	[5]especially mentions Jambi as origin of the mission]

Sources: [1]Bielenstein [a]1997: 87-90, [b]2005: 56-69; [2]Chau Ju-Kua 1911: ; [3]Groeneveldt 1960 [1880] *passim*; [4]Hartwell 1983; [5]Netolitzky 1977: 39-40; [6]Nilakanta Sastri 1940; [7]Rahardjo 2002: 521-24; [8]Wang 1958: where not annotated otherwise, lists on pgs.120-3; [9]Wolters 1967: 159-68, 205-23, 230-1 *passim*.

Dated inscriptions in Old Malay, and/or Sanskrit commonly associated with Śrī Vijaya, following Jordaan and Colless 2009: 194; Marwati et.al. 2008 *passim*; Rahardjo 2002: 535ff: [a]Kedukan Bukit; [b]Talang Tuwo; [c]Kota Kapur; [d]LigorA; [e]Manjucrighra; [f]Gandasuli I; [g]Gandasuli II; [h]Bukateja; [i]Charter of Nālandā; [k]Kebon Kopi; [l]Hujung Langit.

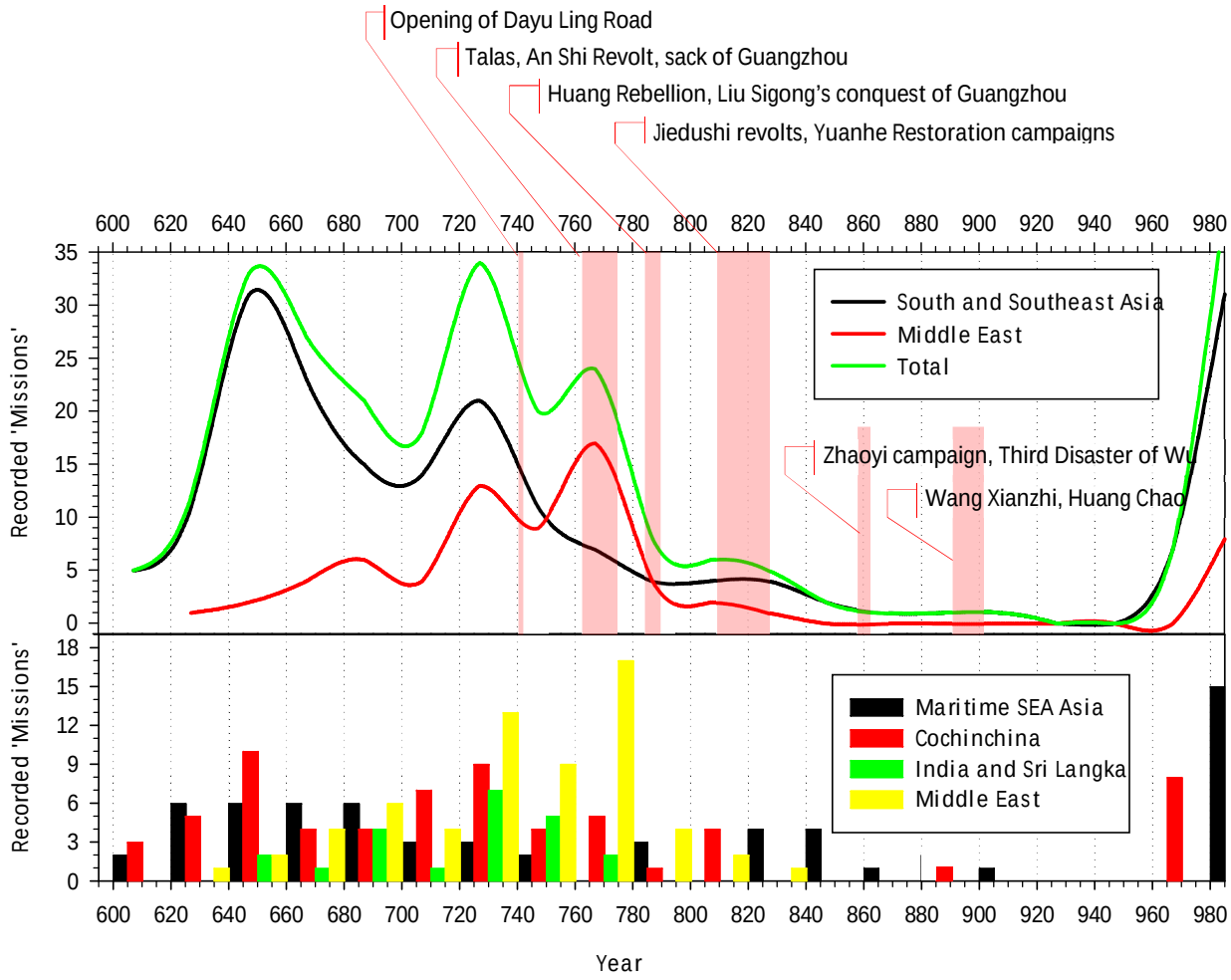
Fig.1.3-1, cont.: Missions of insular Southeast Asian polities to Chinese courts, 430-1070.



Periods of Unrest:

1 Civil wars around consolidation of succession
2 Hou Jing revolt, civil wars around succession, Zhou Di campaign
3 Xu Jingyie Uprising
4 Tibetan and Nanzhao campaigns, Talas
5 An Shi revolt, Arabs sacking Guangzhou
6 Huang revolt, Liu Sigong's conquest of Guangzhou
7 Jiedushi revolts
8 Yuanhe Restoration campaigns
9 Zhaoyi campaign, Third Disaster of Wu
10 Pang Xun revolt, attack by Dali
11 Wang Xianzhi, Huang Chao revolt
12 War between Nanhan and Song

Fig.1.3-2: Block diagram of missions of insular Southeast Asian polities to Chinese courts, 430-1000, and periods of political unrest in China (transparent red); above, per 5-year periods; below, 10-year periods.



Source: Bielenstein 2005: 80-1, 368-9

Tang Rulers, source: Theobald 2000-

1. Gaozu 唐高祖 618-626, d. 635
2. Taizong 唐太宗 626-649
3. Gaozong 唐高宗 649-683
   Zhongzong 唐中宗 (1st reign) 683-684
   Ruizong 唐睿宗 (1st reign) 684
4. Empress Wu (Wuhou) 武后
   proclaiming Zhou Dynasty 周 in 690;
   684/690-704
   Zhongzong 唐中宗 (again) 705-709
   Shangdi 唐殤帝 or the Minor Emperor of
   (Shaodi) 唐少帝 710
   Ruizong 唐睿宗 (again) 710-712
5. Xuanzong 唐玄宗 (dynastic title: Mingdi
   唐明帝) 712-755
6. Suzong 唐肅宗 756-762
7. Daizong 唐代宗 762-779
8. Dezong 唐德宗 779-804
   Shunzong 唐順宗 805
9. Xianzong 唐憲宗 805-820
   Muzong 唐穆宗 820-824
   Jingzong 唐敬宗 824-826
10. Wenzong 唐文宗 826-840
    Wuzong 唐武宗 840-846
11. Xuanzong (II) 唐宣宗 846-859
12. Yizong 唐懿宗 859-873
13. Xizong 唐僖宗 873-888
14. Zhaozong 唐昭宗 888-904
    Aidi 唐哀帝 904-907

Fig.1.3-3: Recorded Missions for Southeast-, South Asia, and the Middle East, 20-year period, 600-1000; selected events and rulers of Tang China.

2. The Cargo

Scattered bowls on surface of tumulus; photo courtesy Fred Dobberphul.

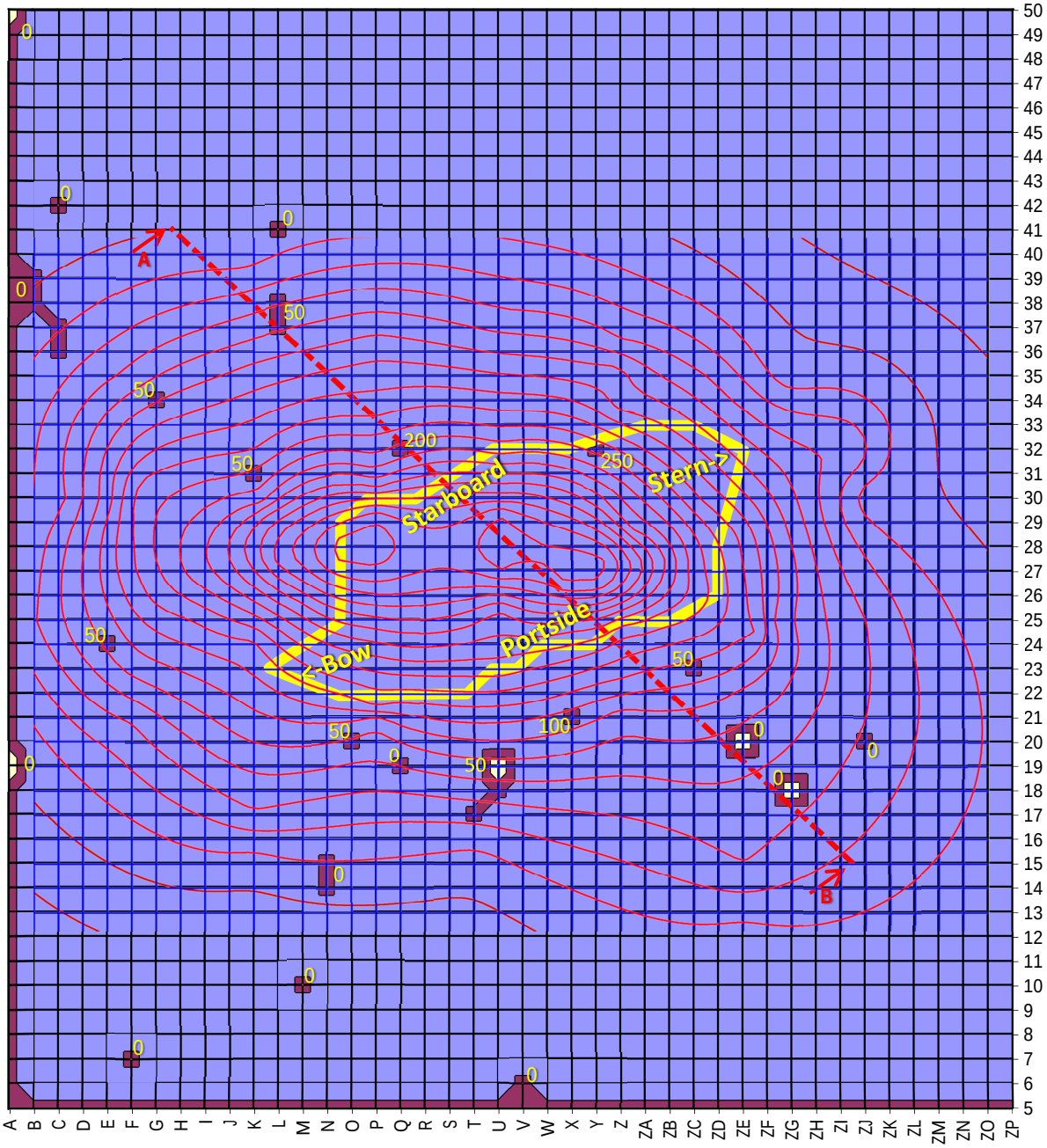


Fig.2.-1: Distribution of Dusun-type storage jars. Yellow numbers note the recorded depth of the objects, measured from the surface of the mount; for an explanation of the chart type and the representation here used see Section 2.1.

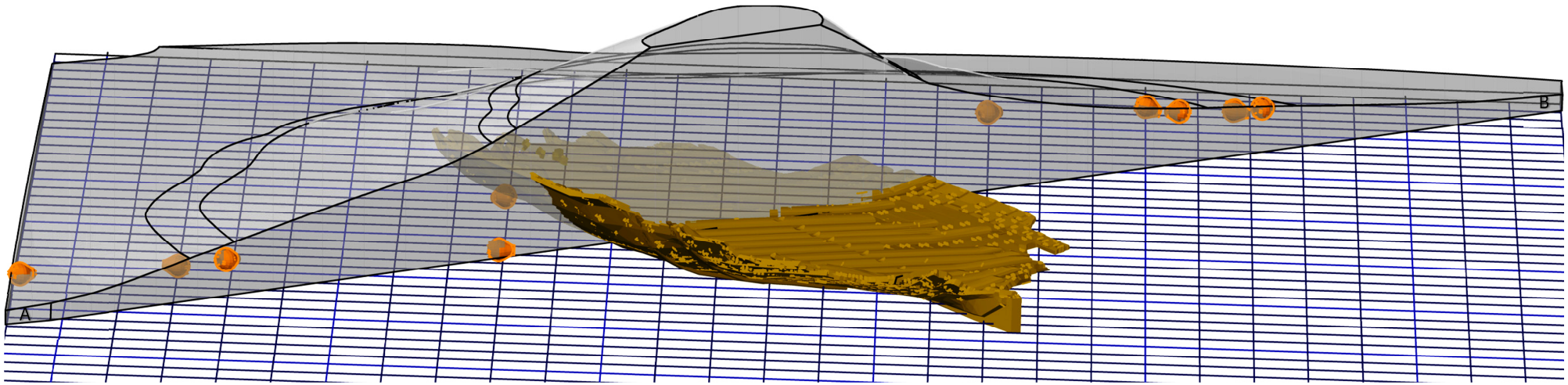


Fig.2-2: Reported position of objects and wreck inside a three dimensional model of gridNE part of tumulus, seen along the red line in Fig.2-1.

2.1 Data Generation: Excavation or Salvage?

Video capture courtesy Yves Gladu, 2004

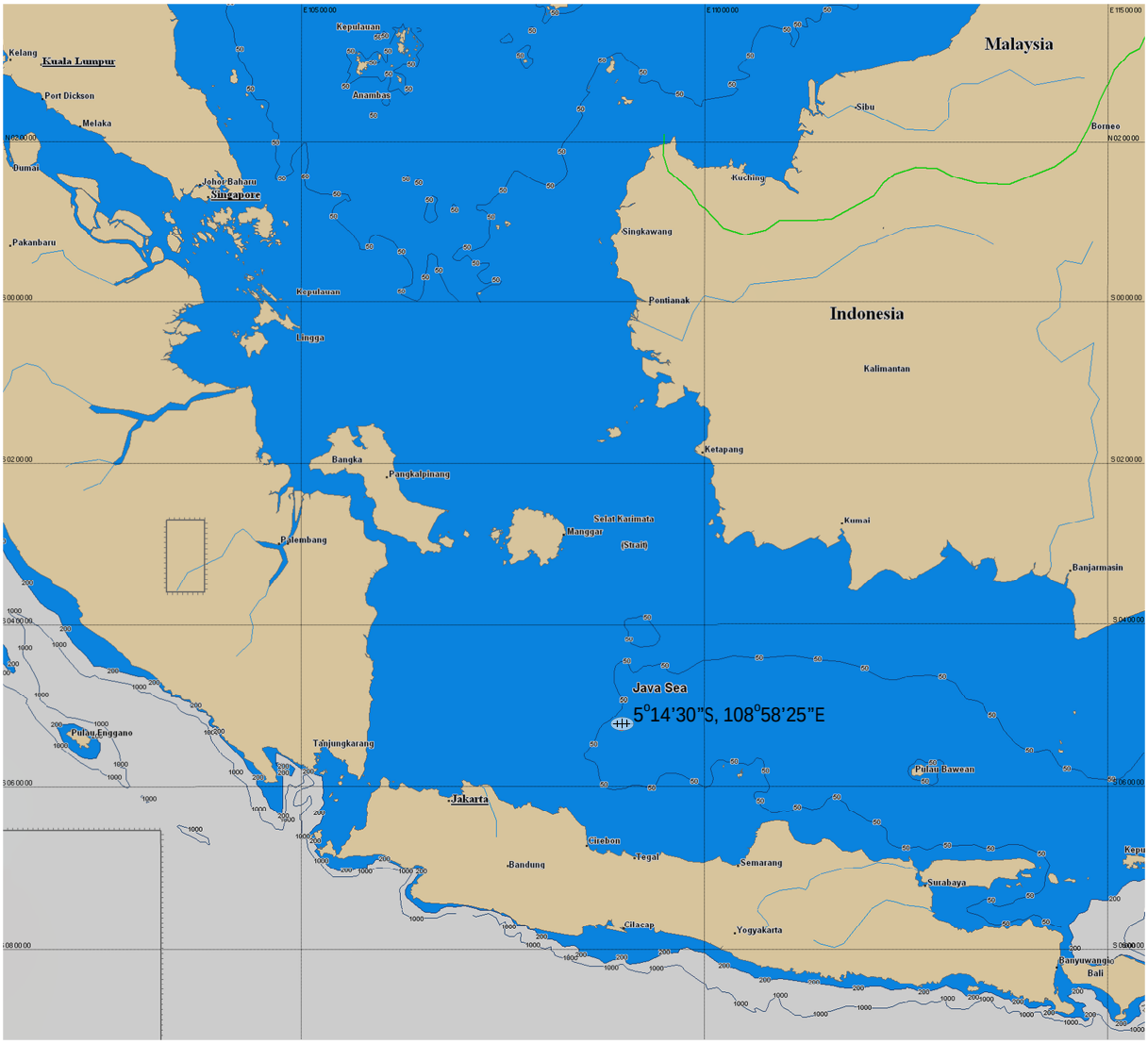


Fig.2.1-1: Wrecksite.

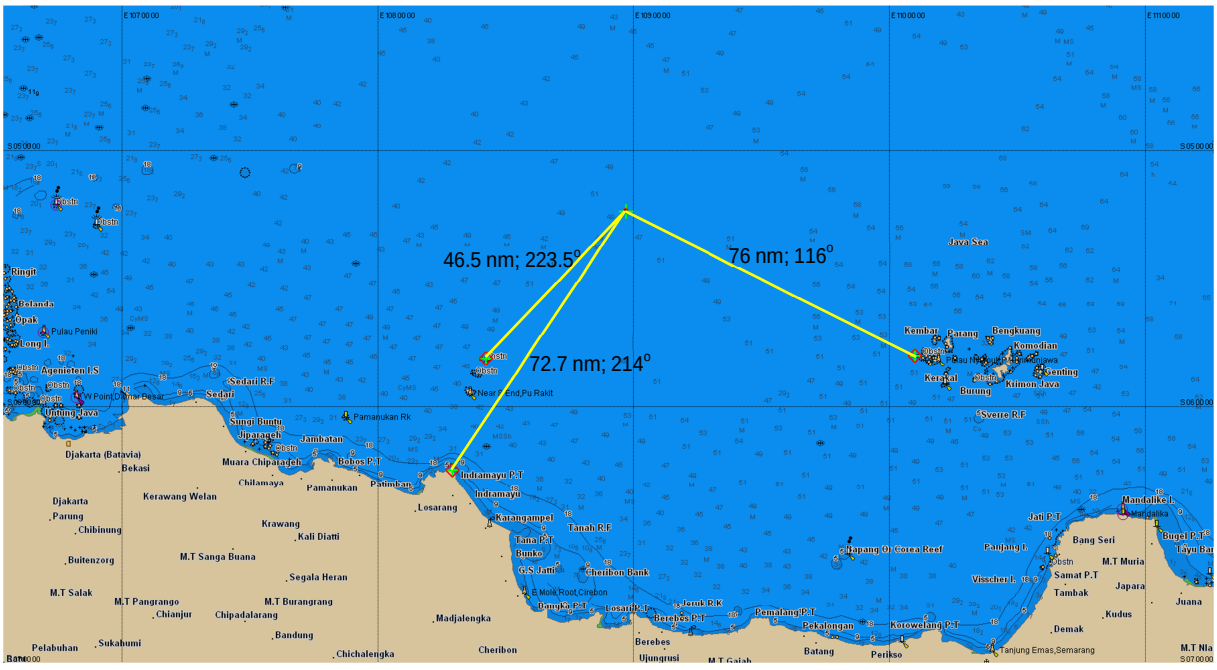


Fig.2.1-2: Distance and bearings to nearest obstructions and shore.

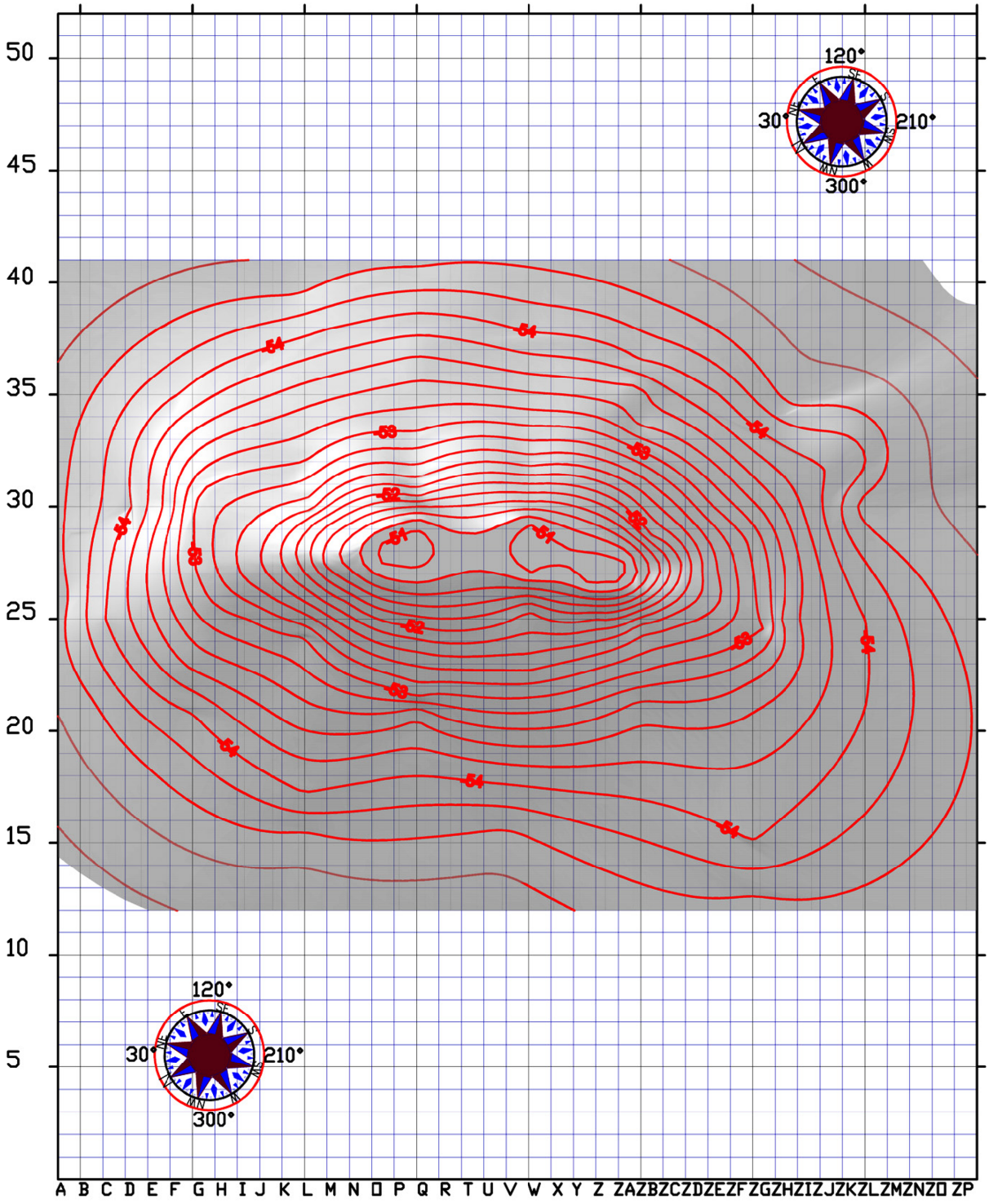


Fig.2.1-3: Initial bathymetric recording of mount of artefacts and grid layout.

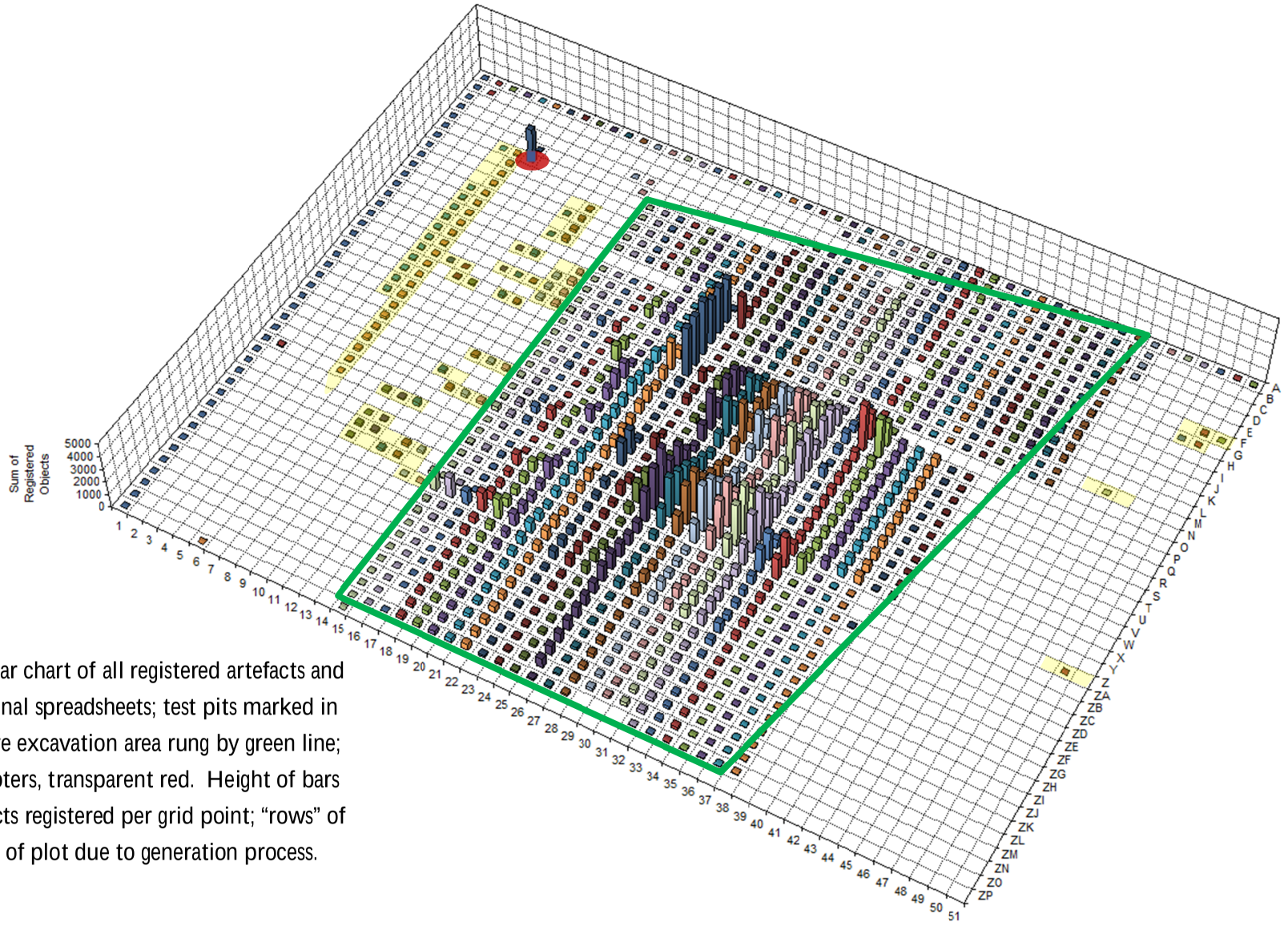


Fig.2.1-4: Distribution bar chart of all registered artefacts and shards as noted in original spreadsheets; test pits marked in transparent yellow; core excavation area rung by green line; objects dropped by looters, transparent red. Height of bars notes amount of artefacts registered per grid point; “rows” of marks along margins of plot due to generation process.

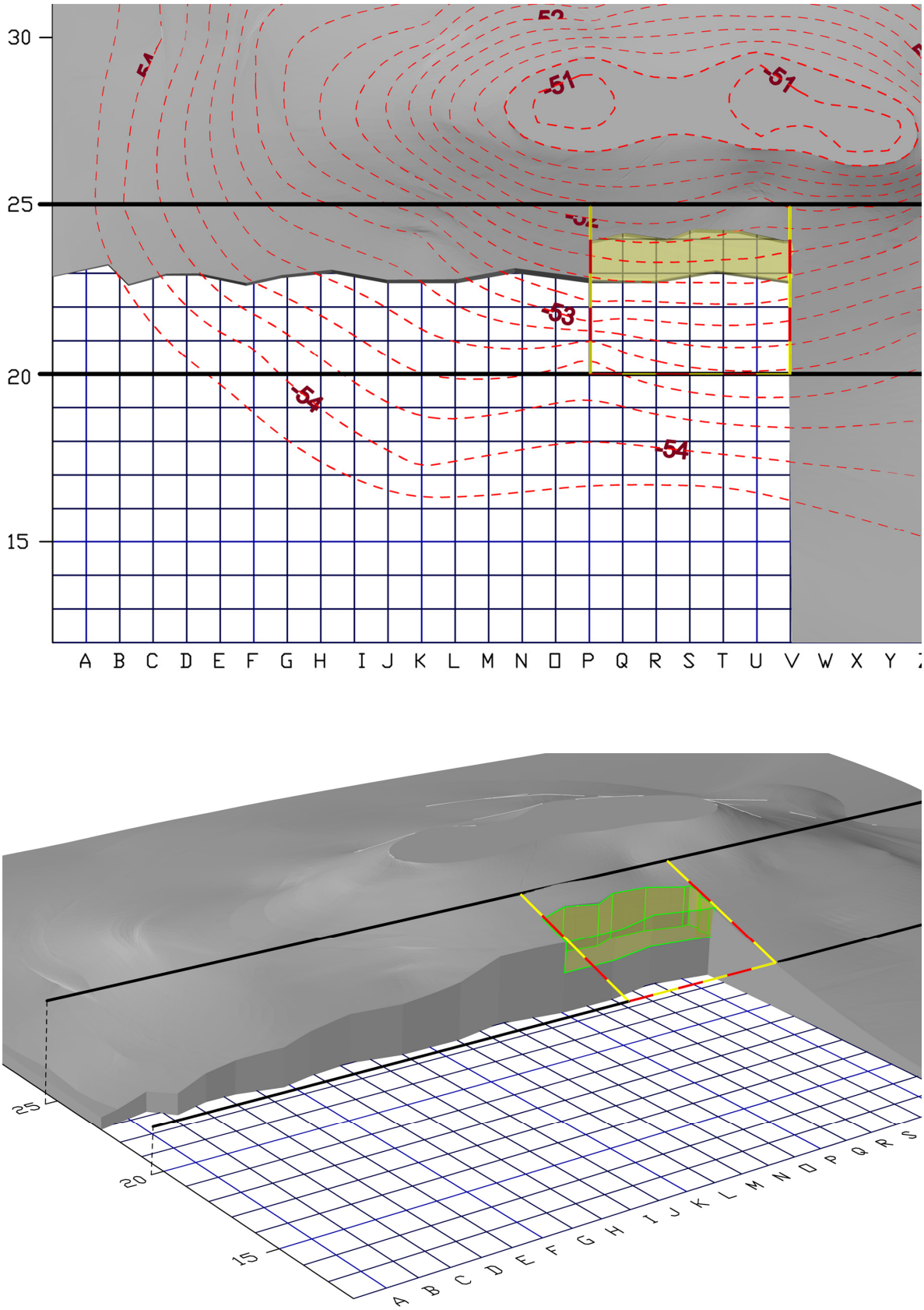


Fig.2.1-5: Outlining working areas (transparent green) by base lines (black) and tagged guys (yellow/red), here for |P:V24/0-100|.

Fig.2.1-6: MV *Siren*, in Marunda port, above; anchored above site, below.

Fig.2.1-7: Retrieving ceramics; video capture courtesy Yves Gladu, 2005.

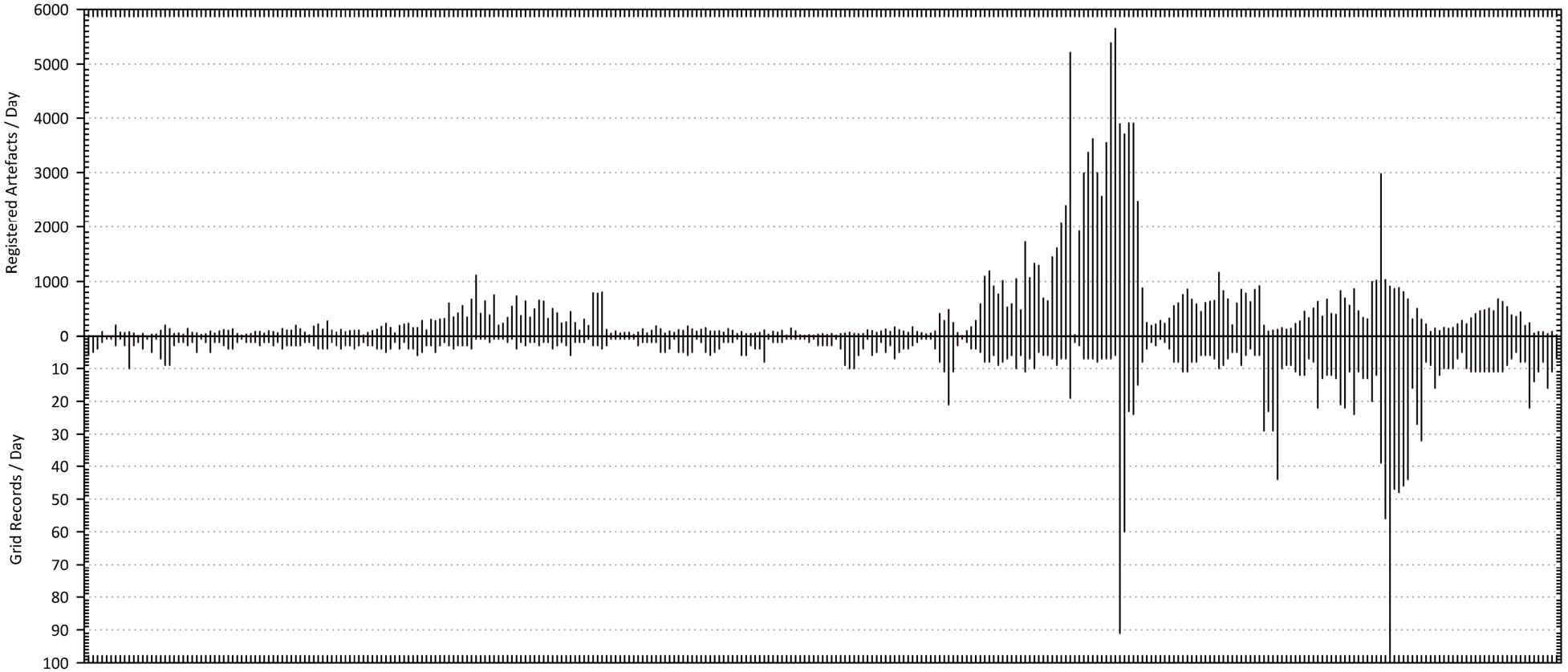


Fig.2.1-8: Artefacts registered per day, above; grid points “worked” per day, below. Uncorrected data.

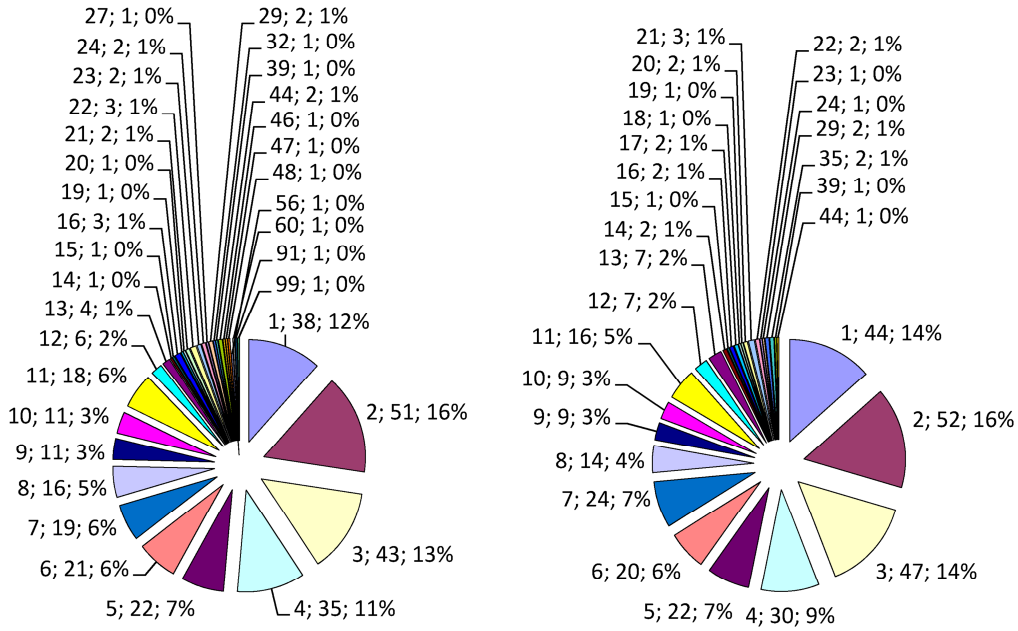
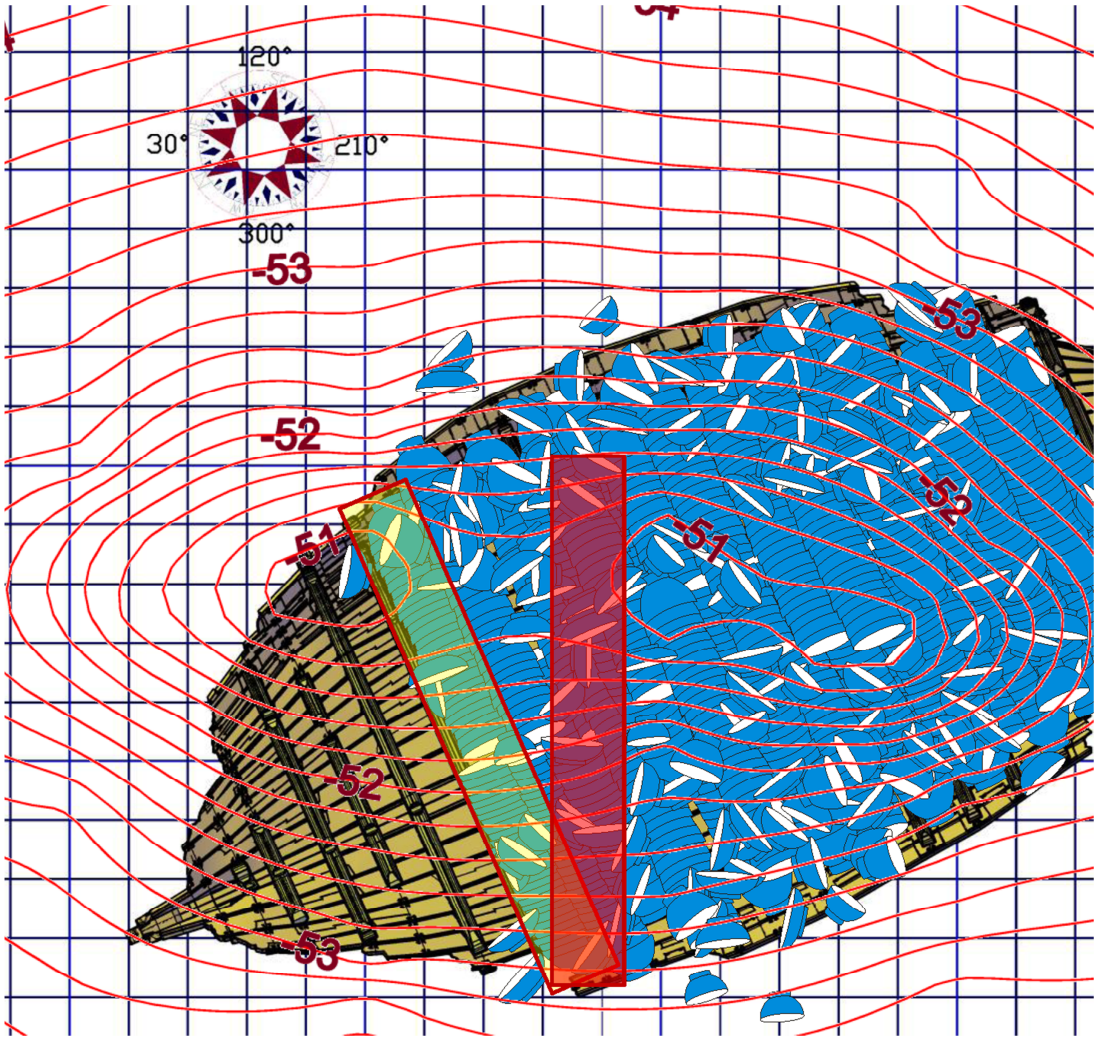


Fig.2.1-9: Frequencies of registered grid points / day, here counted as {∑ of registered grid points; occurrences; percentage}. |xy/z| records, left; |xy| records only, right. Uncorrected data.



[Fig.2.1-10 see next page] Fig.2.1-11: Recording of objects retrieved from inside the remains of the hull. Actual arrangement of rows of ceramic cargo, transparent yellow; recorded grid points, red.

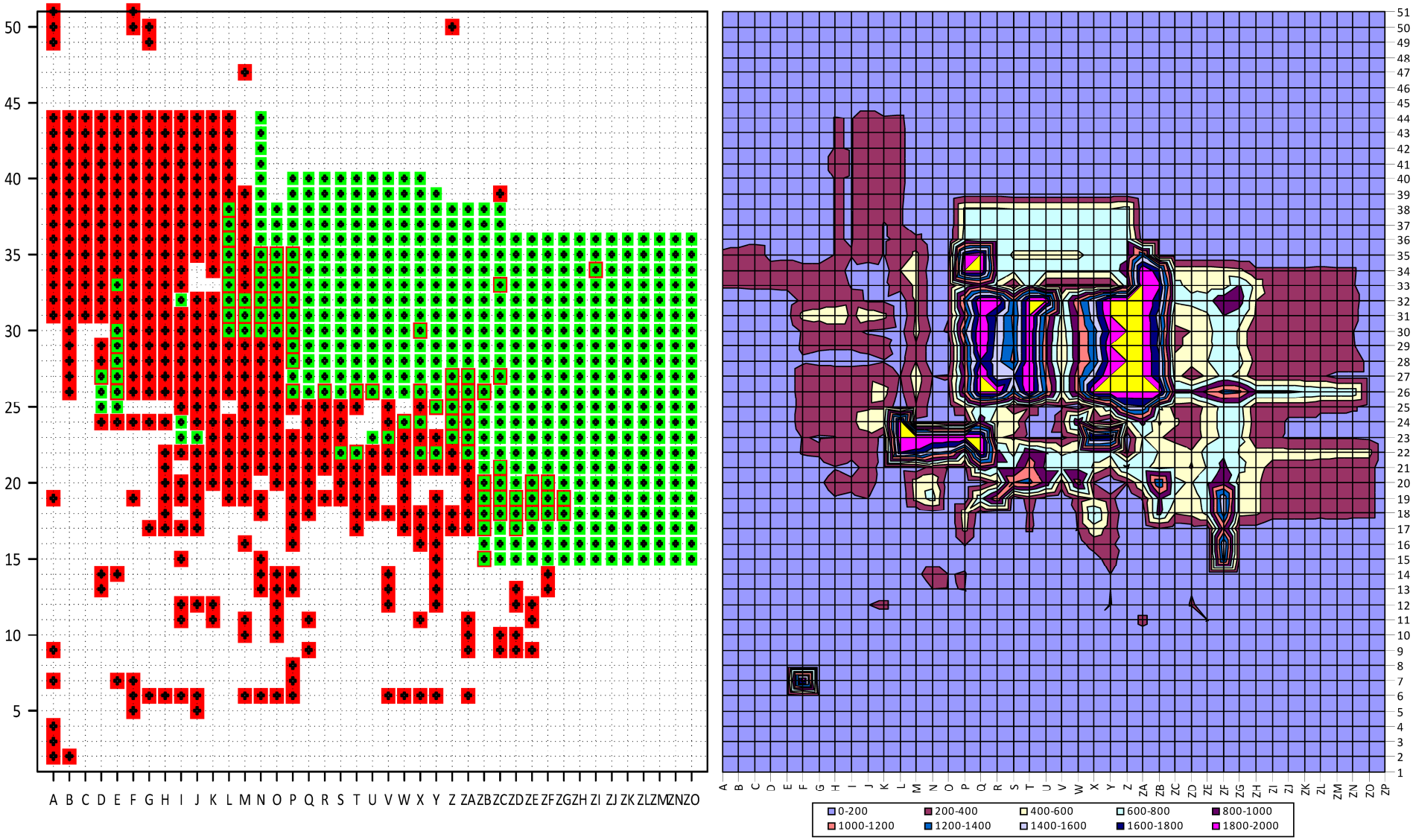


Fig.2.1-10: Left, recorded grid points for individually registered objects and "restorables"; during 2004, red; during 2005, green (note: grid notations found in the records for 2004 and 2005 mostly differ in |z| values). Right, sums of individually registered objects and "restorables" per grid point, in steps of 200 items, uncorrected data, (note: as entry count was capped at 2000, '2000' in the legend should be read '≥2000' – see explanation on distribution plots in text).

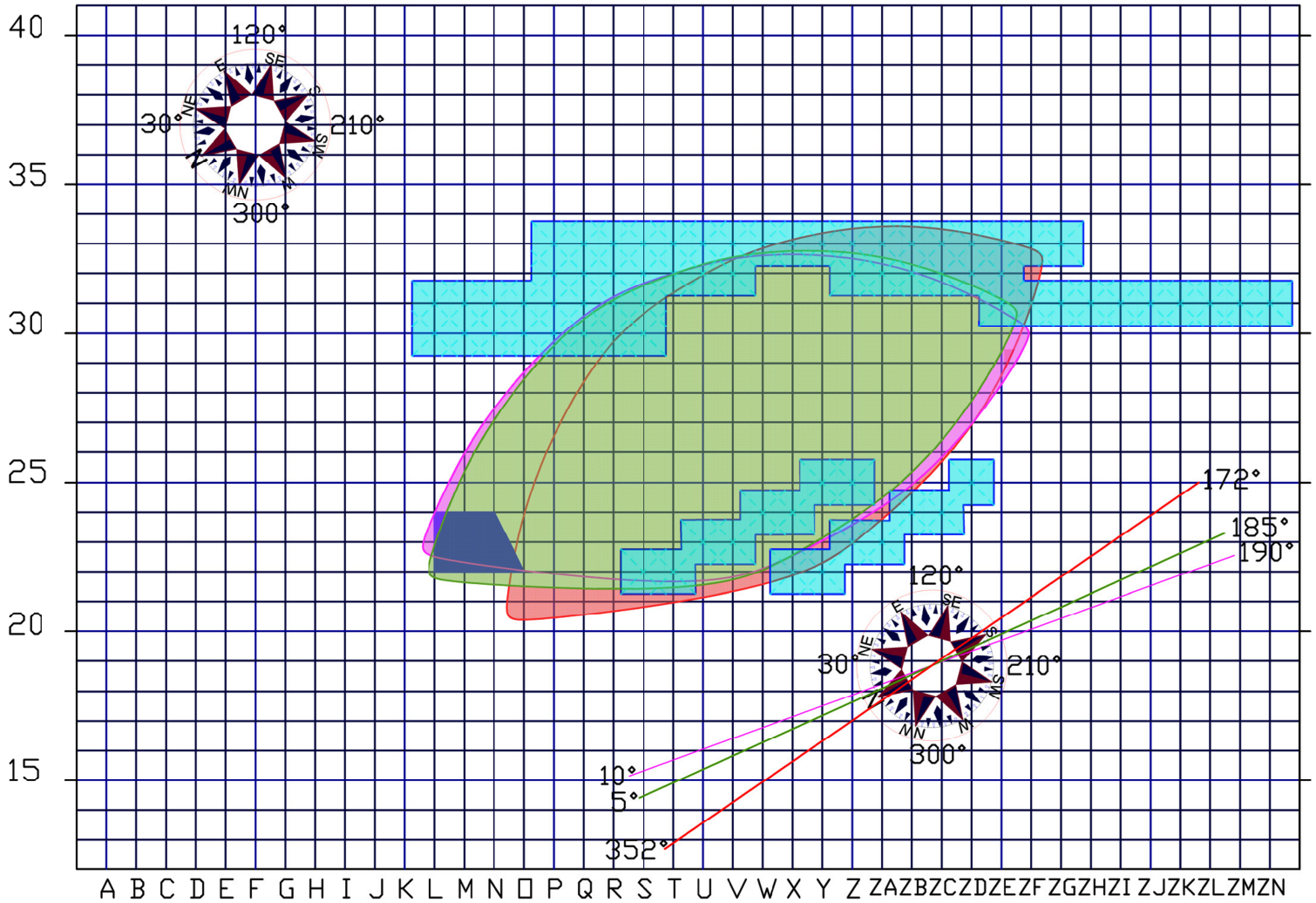


Fig.2.1-12: Attempting to project the ship's remains onto the grid. Transparent red, position as assumed in June 2005; transparent green, position averaged on grid points recorded for foreship (July 2004; dark blue) and "worked" when cleaning under the sides of the wreck (October 2005; light blue); transparent magenta, according to bearing of the keel and position of its aft extremity as recorded in October 2005.

x	y	z	Date
Q	31	200	50216
Q	31	0	50307
Q	31	300	50318
Q	31	350	50318
Q	31	50	50926
Q	31	0	50927
Q	31	0	51001

x	y	z	Date
Q	32	200	50213
Q	32	200	50214
Q	32	200	50216
Q	32	0	50307
Q	32	300	50318
Q	32	50	50923
Q	32	0	50924
Q	32	0	51001
Q	32	0	51003

T	32	50	50226
T	32	100	50226
T	32	150	50228
T	32	200	50301
T	32	250	50302
T	32	300	50311
T	32	300	50312
T	32	350	50312
T	32	50	50923
T	32	0	50924
T	32	0	51003
T	32	0	51004

T	33	50	50226
T	33	100	50226
T	33	100	50228
T	33	150	50228
T	33	350	50312
T	33	50	50920
T	33	50	50921
T	33	0	50922
T	33	0	51003
T	33	0	51004

Fig.2.1-13: Examples for mistakes in records of |z| values.

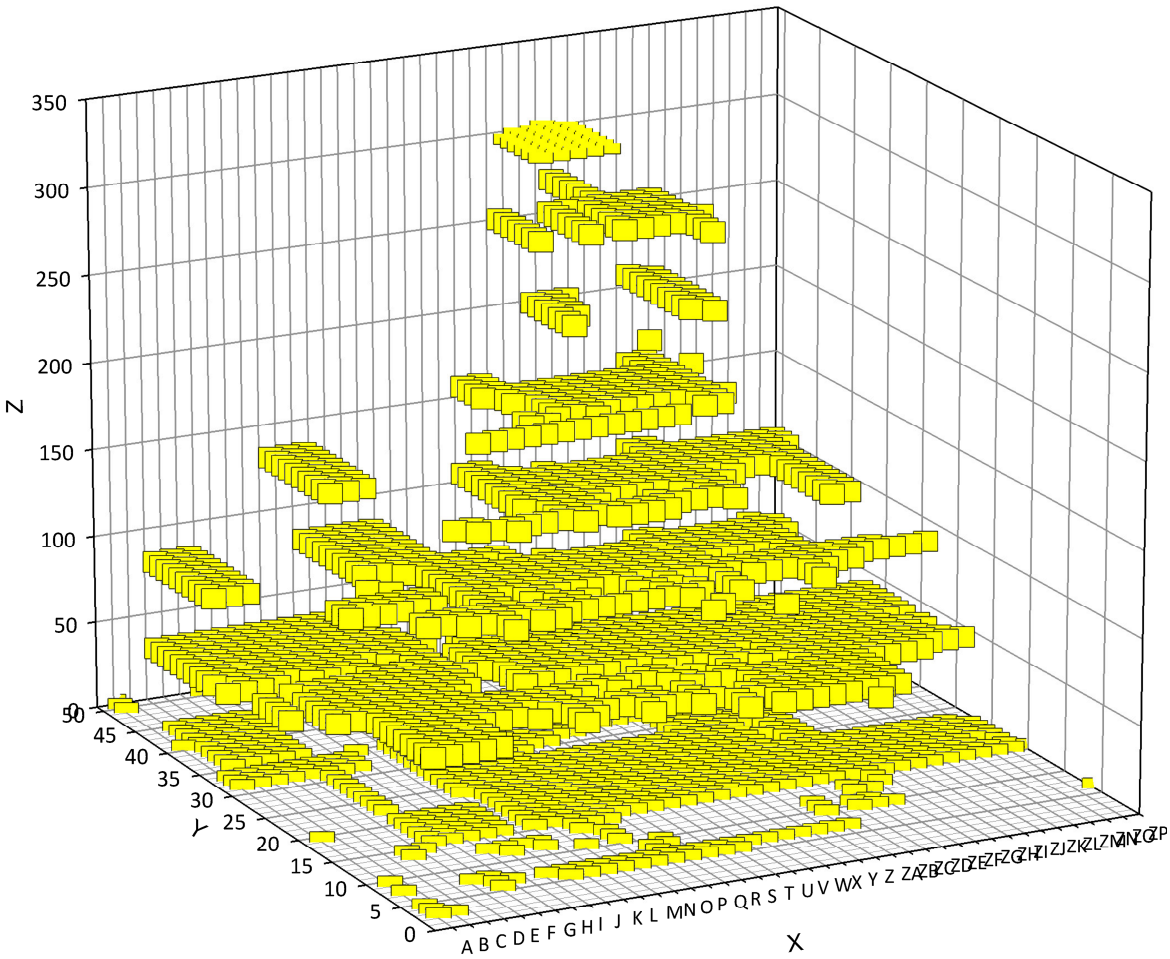


Fig.2.1-14: All grid records (individual records, restorables and shards), projected into a 3d model. Uncorrected data.

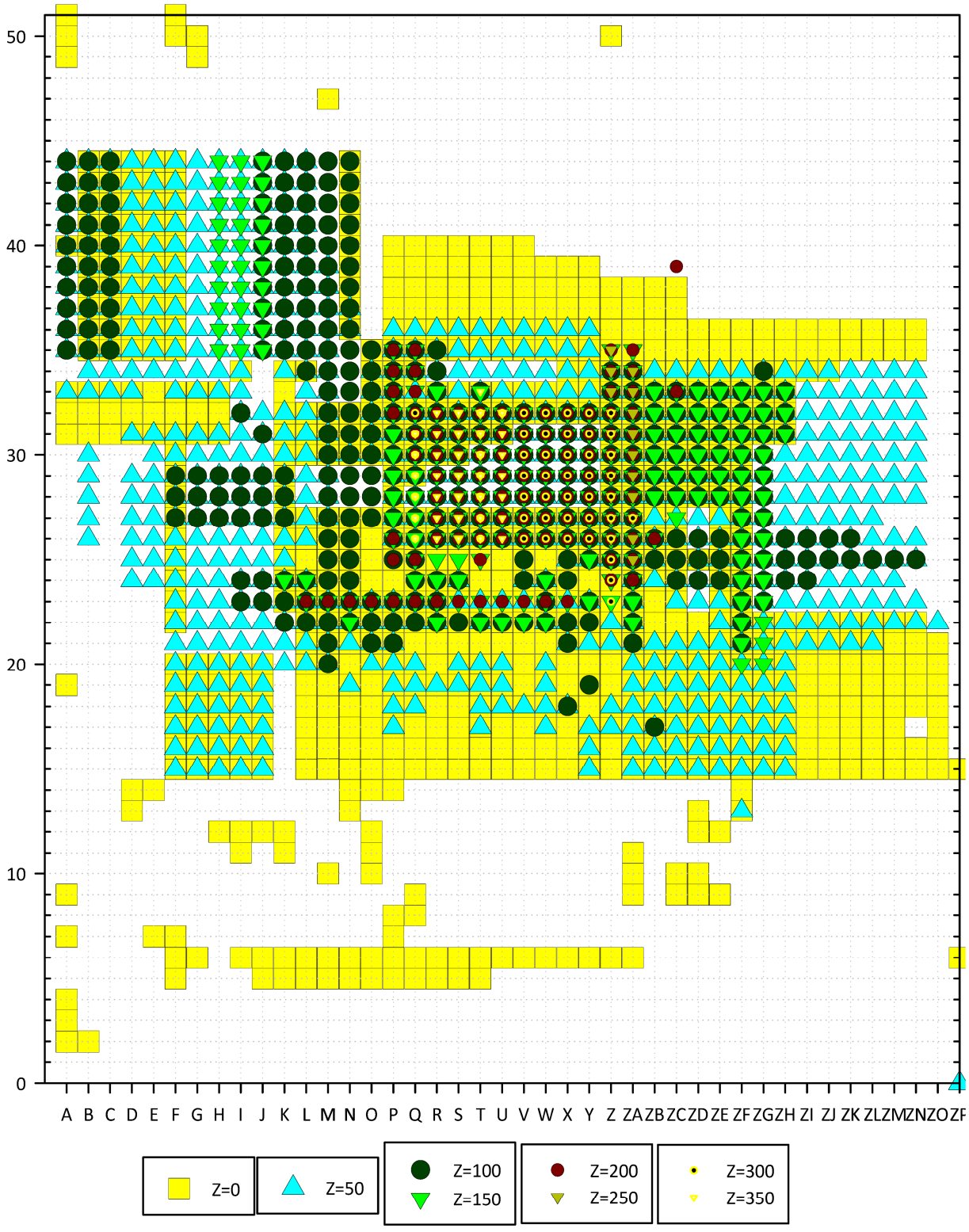


Fig.2.1-15: Grid points recorded for all individually registered artefacts, restorables and shards; |z| records by 50 cm steps. Cont. …

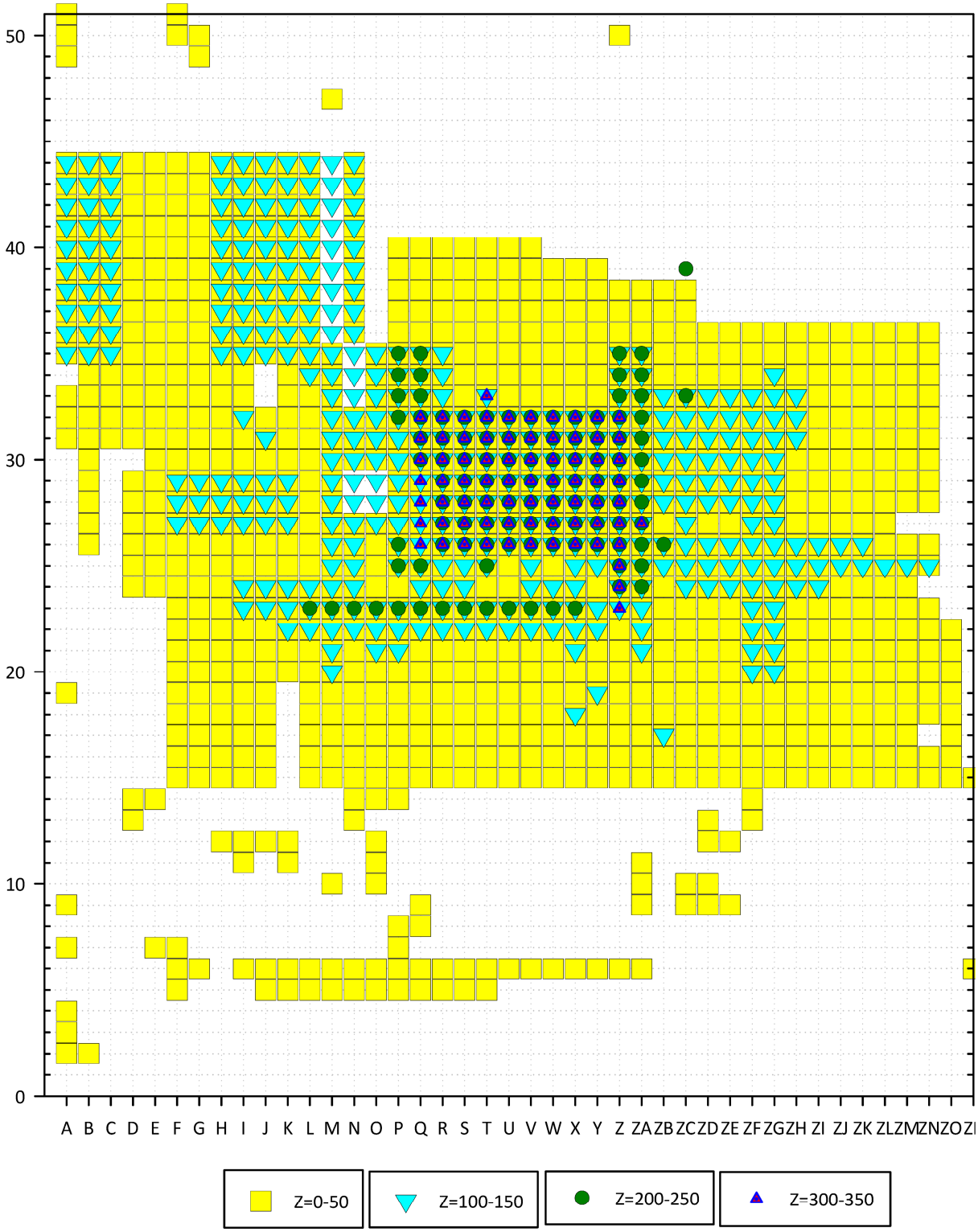


Fig.2.1-15, cont.: Grid points recorded for all individually registered artefacts, restorables and shards; |z| records by 100 cm steps.

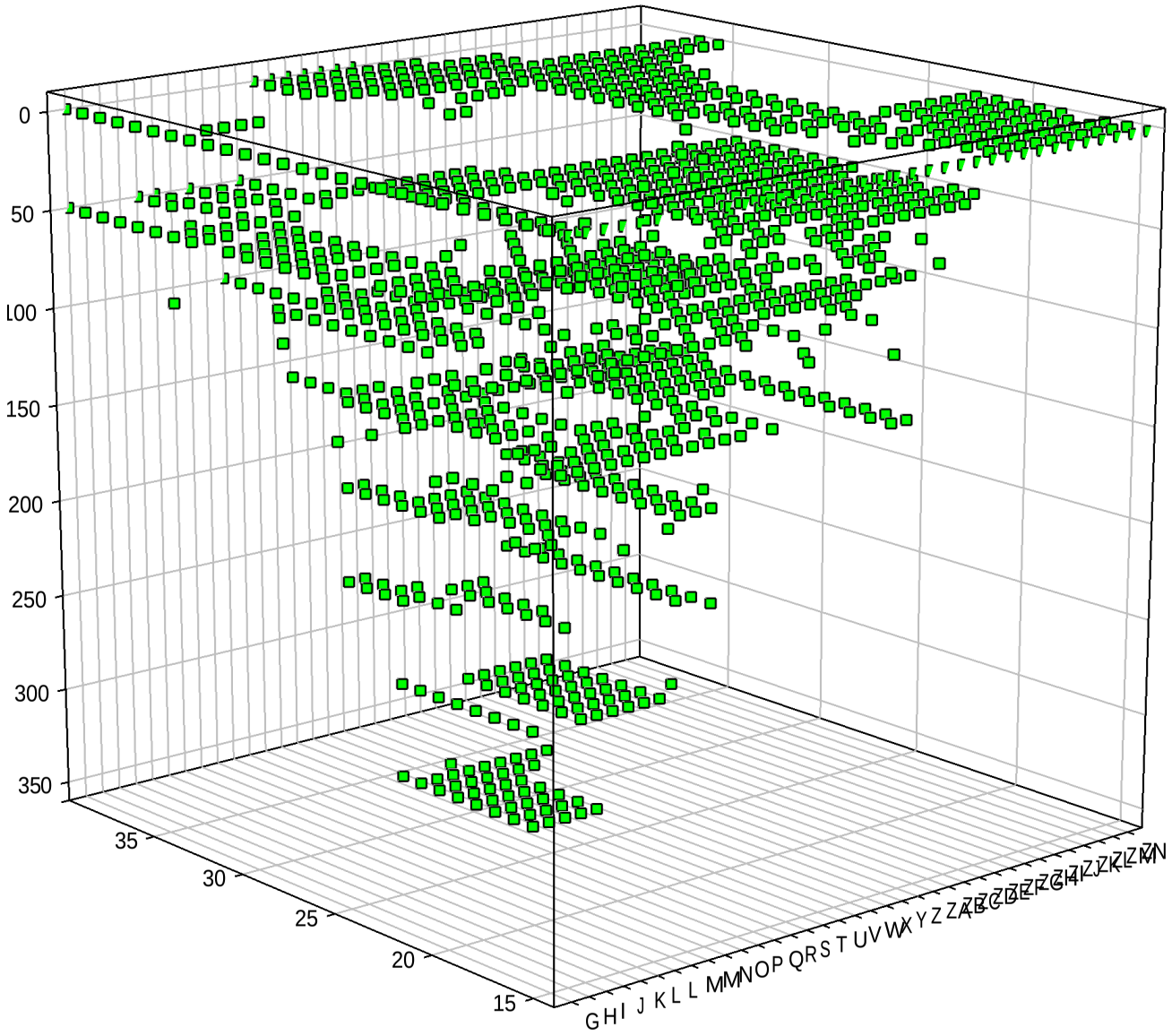
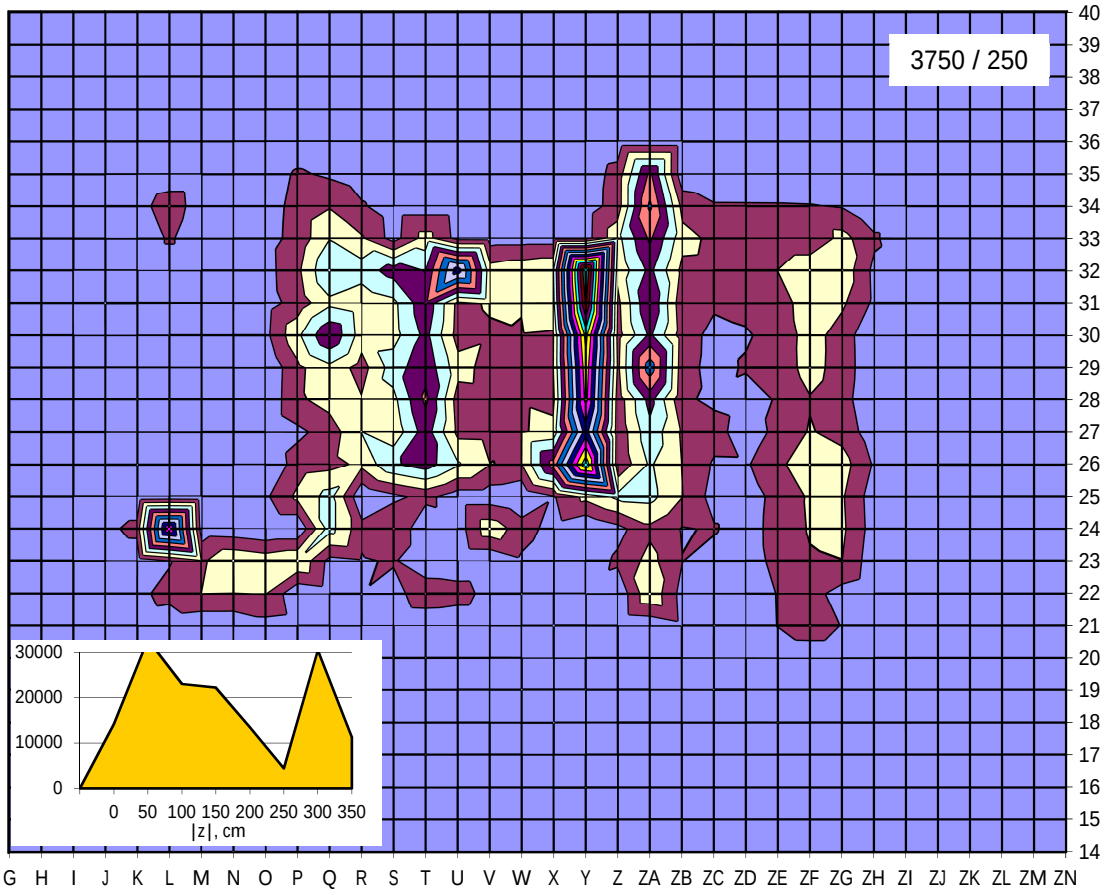


Fig.2.1-16: Three dimensional plot of all |xy/z| values registered in the central section of the site, corrected records.



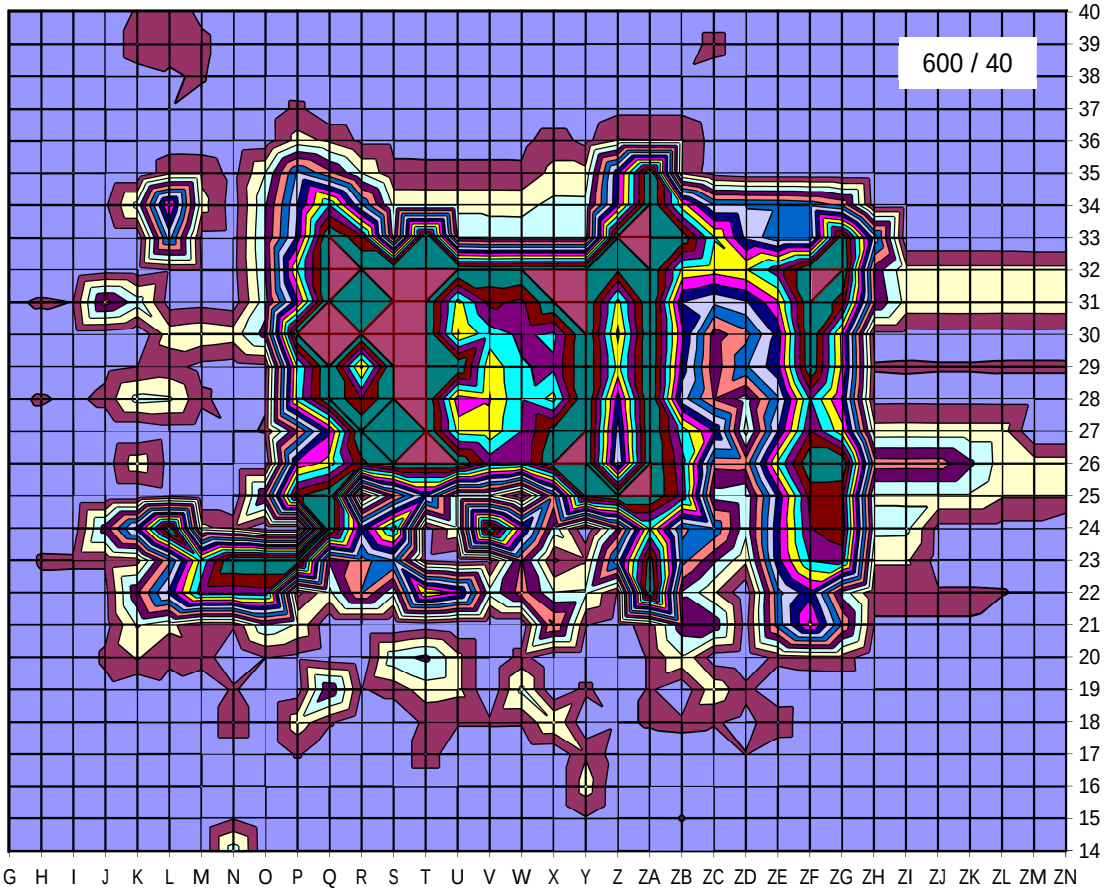
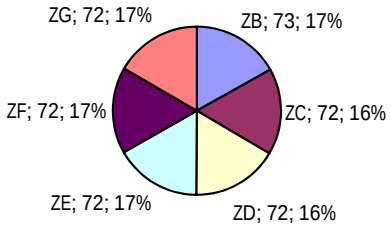


Fig.2.1-17: Distribution of all individually registered objects in central part of the site, corrected data.

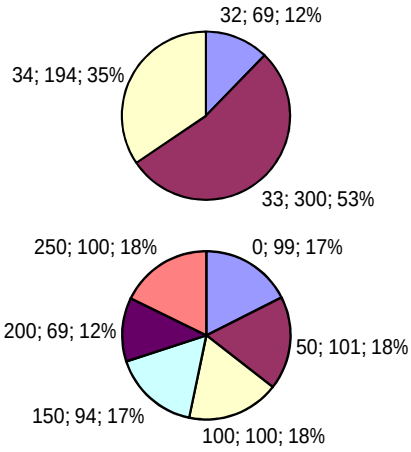
Date	#	Serial	X	Y	Z
50924	152561	J3	W	32	0
50924	152562	J3	X	32	0
50924	152563	J3	Y	32	0
50924	152564	J3	O	32	0
50924	152565	J3	P	32	0
50924	152566	J3	Q	32	0
50924	152567	J3	R	32	0
50924	152568	J3	S	32	0
50924	152569	J3	T	32	0
50924	152570	J3	U	32	0
50924	152571	J3	V	32	0
50924	152572	J3	W	32	0
50924	152573	J3	X	32	0
50924	152574	J3	Y	32	0
50924	152575	J3	O	32	0
50924	152576	J3	P	32	0
50924	152577	J3	Q	32	0
50924	152578	J3	R	32	0
50924	152579	J3	S	32	0
50924	152580	J3	T	32	0
50924	152581	J3	U	32	0
50924	152582	J3	V	32	0
50924	152583	J3	W	32	0
50924	152584	J3	X	32	0
50924	152585	J3	Y	32	0
50924	152586	J3	O	32	0
50924	152587	J3	P	32	0
50924	152588	J3	Q	32	0
50924	152589	J3	R	32	0
50924	152590	J3	S	32	0
50924	152592	J3	U	32	0
50924	152593	J3	V	32	0
50924	152594	J3	W	32	0
50924	152595	J3	X	32	0
50924	152596	J3	Y	32	0
50924	152597	J3	O	32	0
50924	152598	J3	P	32	0
50924	152599	J3	Q	32	0
50924	152600	J3	R	32	0
50924	152601	J3	S	32	0
50924	152602	J3	T	32	0
50924	152603	J3	U	32	0
50924	152604	J3	V	32	0
50924	152605	J3	W	32	0
50924	152606	J3	X	32	0
50924	152607	J3	Y	32	0
50924	152608	J3	O	32	0
50924	152609	J3	P	32	0
50924	152610	J3	Q	32	0
50924	152611	J3	R	32	0
50924	152613	J3	T	32	0
50924	152615	J3	V	32	0

Date	#	Serial	X	Y	Z
50730	130540	B33	ZJ	25	100
50730	130541	B33	ZK	25	100
50730	130542	B33	ZB	25	100
50730	130543	B33	ZC	25	100
50730	130544	B33	ZD	25	100
50730	130545	B33	ZE	25	100
50730	130546	B33	ZF	25	100
50730	130547	B33	ZL	25	100
50730	130548	B33	ZM	25	100
50730	130549	B33	ZN	25	100
50730	130550	B33	ZG	25	100
50730	130551	B33	ZH	25	100
50730	130552	B33	ZI	25	100
50730	130553	B33	ZJ	25	100
50730	130554	B33	ZK	25	100
50730	130555	B33	ZB	25	100
50730	130556	B33	ZC	25	100
50730	130557	B33	ZD	25	100
50730	130558	B33	ZE	25	100
50730	130559	B33	ZF	25	100
50730	130560	B33	ZL	25	100
50730	130561	B33	ZM	25	100
50730	130562	B33	ZN	25	100
50730	130563	B33	ZG	25	100
50730	130564	B33	ZH	25	100
50730	130565	B33	ZI	25	100
50730	130566	B33	ZJ	25	100
50730	130567	B33	ZK	25	100
50730	130568	B33	ZB	25	100
50730	130569	B33	ZC	25	100
50730	130570	B33	ZD	25	100
50730	130571	B33	ZE	25	100
50730	130572	B33	ZF	25	100
50730	130573	B33	ZL	25	100
50730	130574	B33	ZM	25	100
50730	130575	B33	ZN	25	100
50730	130576	B33	ZG	25	100
50730	130577	B33	ZH	25	100
50730	130578	B33	ZI	25	100
50730	130579	B33	ZJ	25	100
50730	130580	B33	ZK	25	100
50730	130581	B33	ZB	25	100
50730	130582	B33	ZC	25	100
50730	130583	B33	ZD	25	100
50730	130584	B33	ZE	25	100
50730	130585	B33	ZF	25	100
50730	130586	B33	ZL	25	100
50730	130587	B33	ZM	25	100
50730	130588	B33	ZN	25	100
50730	130589	B33	ZG	25	100
50730	130590	B33	ZH	25	100
50730	130591	B33	ZI	25	100

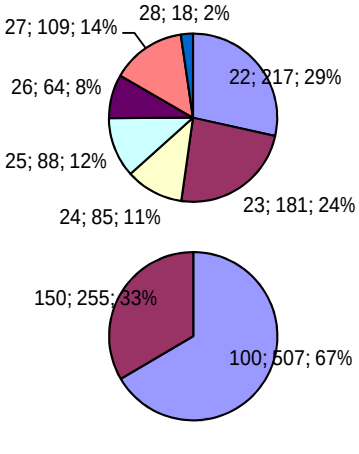
Fig.2.1-18: “Spreading” categorised object entries over grid records during registration on location.



50820: 433pcs, |ZB:ZG32/50|



50427, 563pcs, |Z32:34/0:250|



50504, 762pcs, |ZA22:28/100:150|

Fig.2.1-19: Randomly selected grid records/day for <B1/loc>; grid record; amount; percentage.

Individually registered objects ...

Date	Art.#	X	Y	<Serial loc.>
40707	6322	U	22	E17
40707	6323	U	22	D35
40707	6324	U	22	D35
40707	6325	U	22	D35
40707	6326	U	22	D35
40707	6327	U	22	D18
40707	6328	U	22	J3
40707	6329	U	22	J3
40707	6330	U	22	J3
40707	6331	U	22	J3
40707	6332	U	22	J3
40707	6333	U	22	J3
40707	6334	U	22	J3
40707	6335	U	22	J3
40707	6336	U	22	J3
40707	6337	U	22	J3
40707	6338	U	22	J3
40707	6339	U	22	J3
40707	6340	U	22	J3
40707	6341	U	22	J3

... + "virtual spread"

Date	Art.#	X	Y	<Serial loc.>
40707	6322	T	22	E17
40707	6322	U	22	E17
40707	6322	V	22	E17
40707	6322	W	22	E17
40707	6323	T	22	D35
40707	6323	U	22	D35
40707	6323	V	22	D35
40707	6323	W	22	D35
40707	6324	T	22	D35
40707	6324	U	22	D35
40707	6324	V	22	D35
40707	6324	W	22	D35
40707	6325	T	22	D35
40707	6325	U	22	D35
40707	6325	V	22	D35
40707	6325	W	22	D35
40707	6326	T	22	D35
40707	6326	U	22	D35
40707	6326	V	22	D35
40707	6326	W	22	D35

Fig.2.1-20: "Virtually spreading" |xy| grid recordings over daily registered grid points, here for 40707, |T22:W22|, 229>916 records.

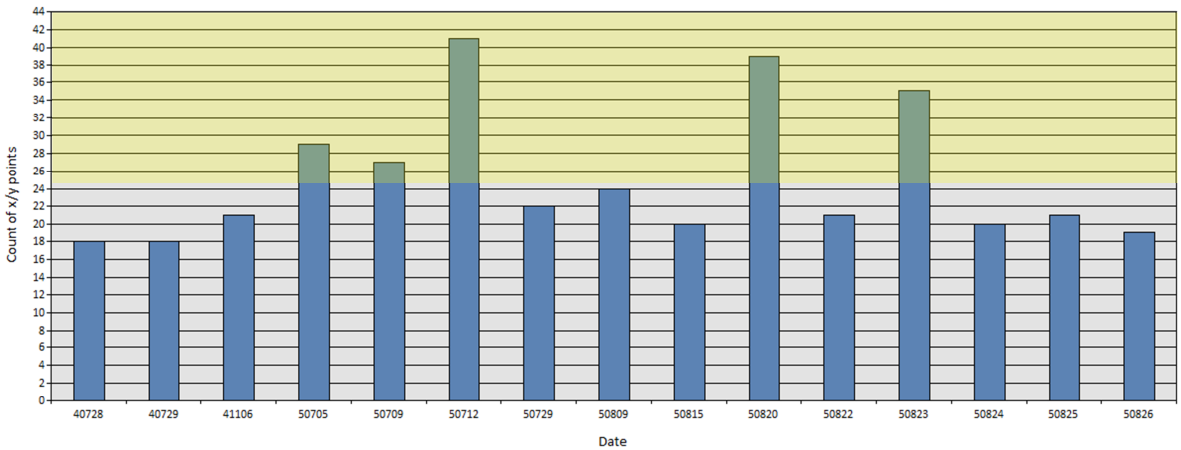


Fig.2.1-21: Dates with highest counts of |xy| records, site's centre; corrected data.

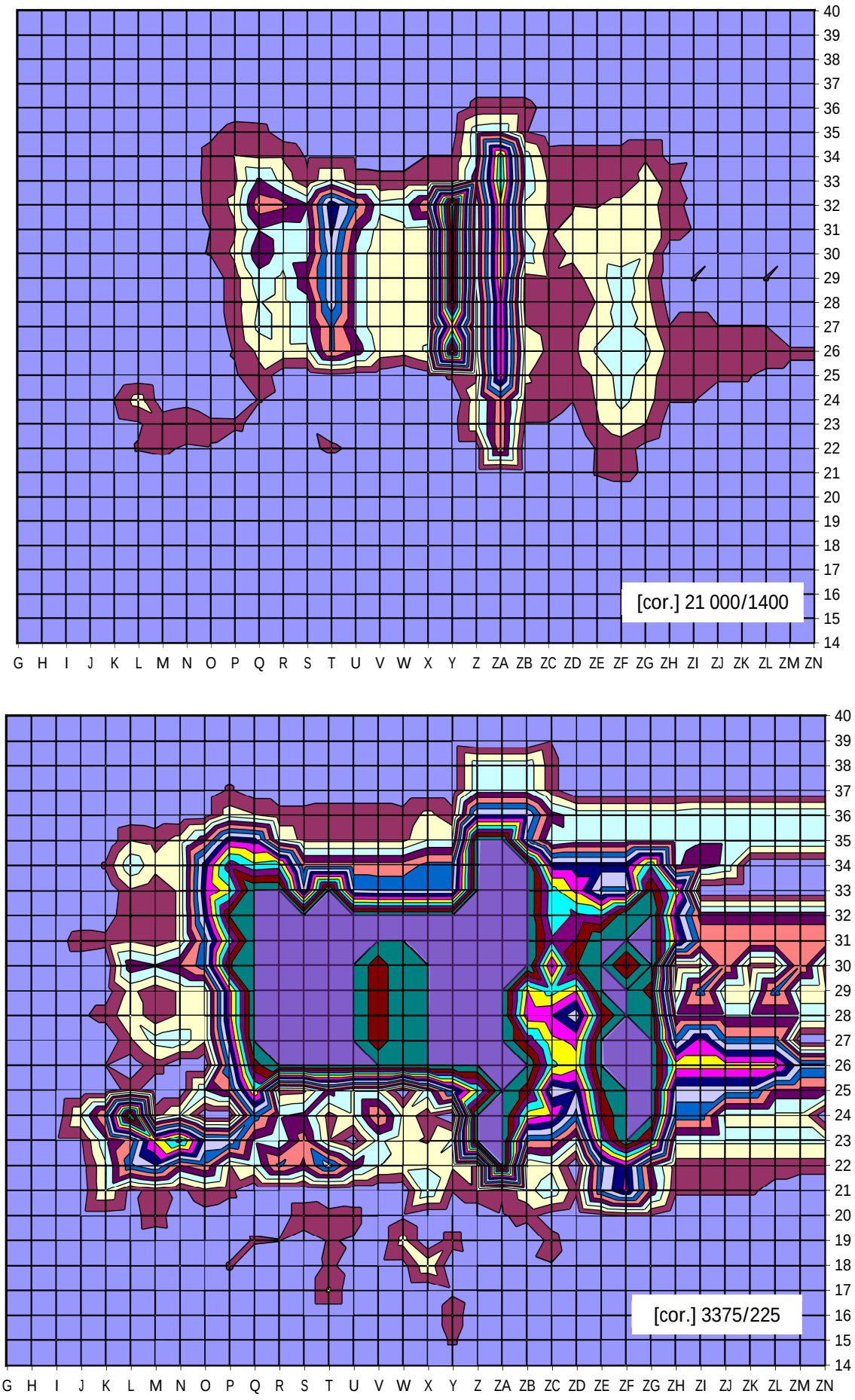


Fig.2.1-22: “Corrected” distribution charts, all records for core excavation area.

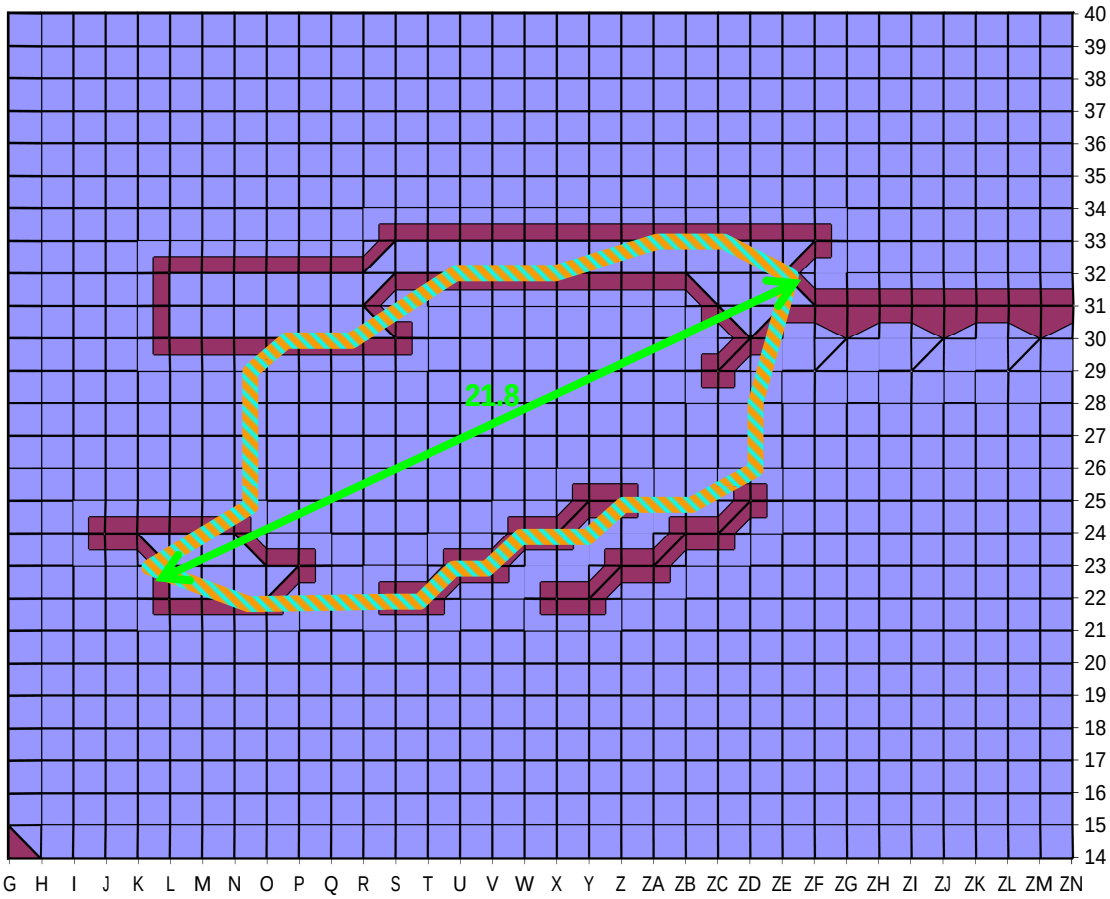


Fig.2.1-23: Approximate position of ship's remains following grid records that can be related to the perimeter of the hull.

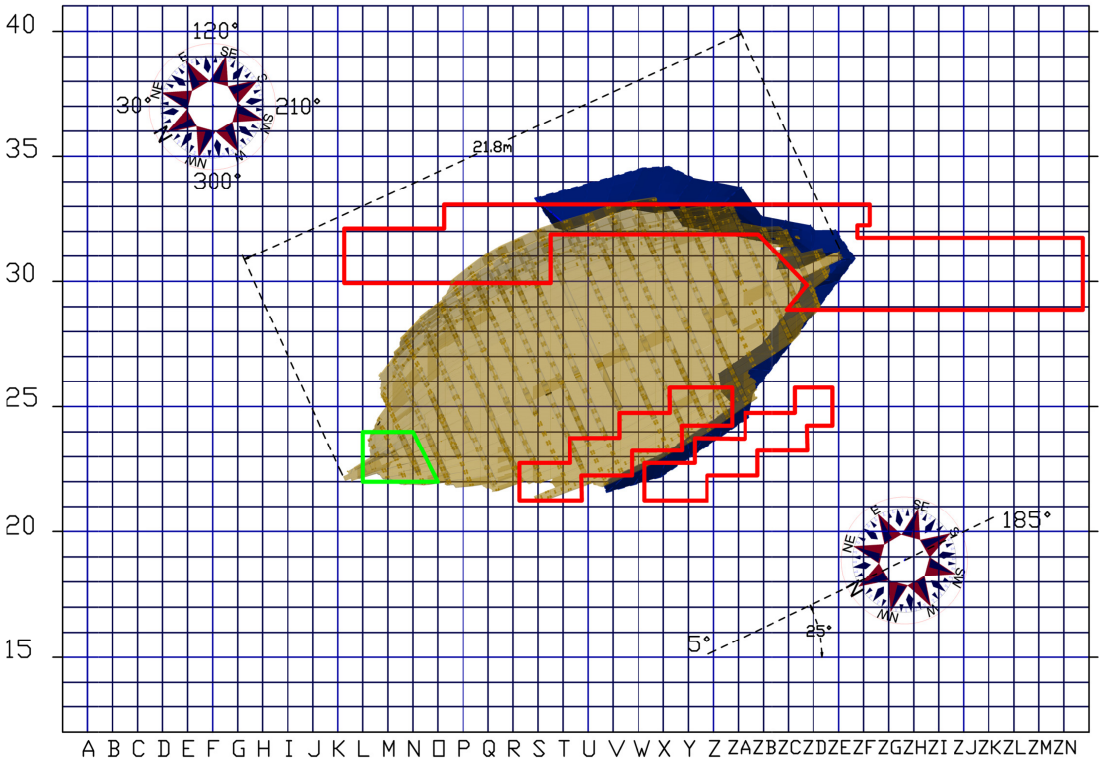
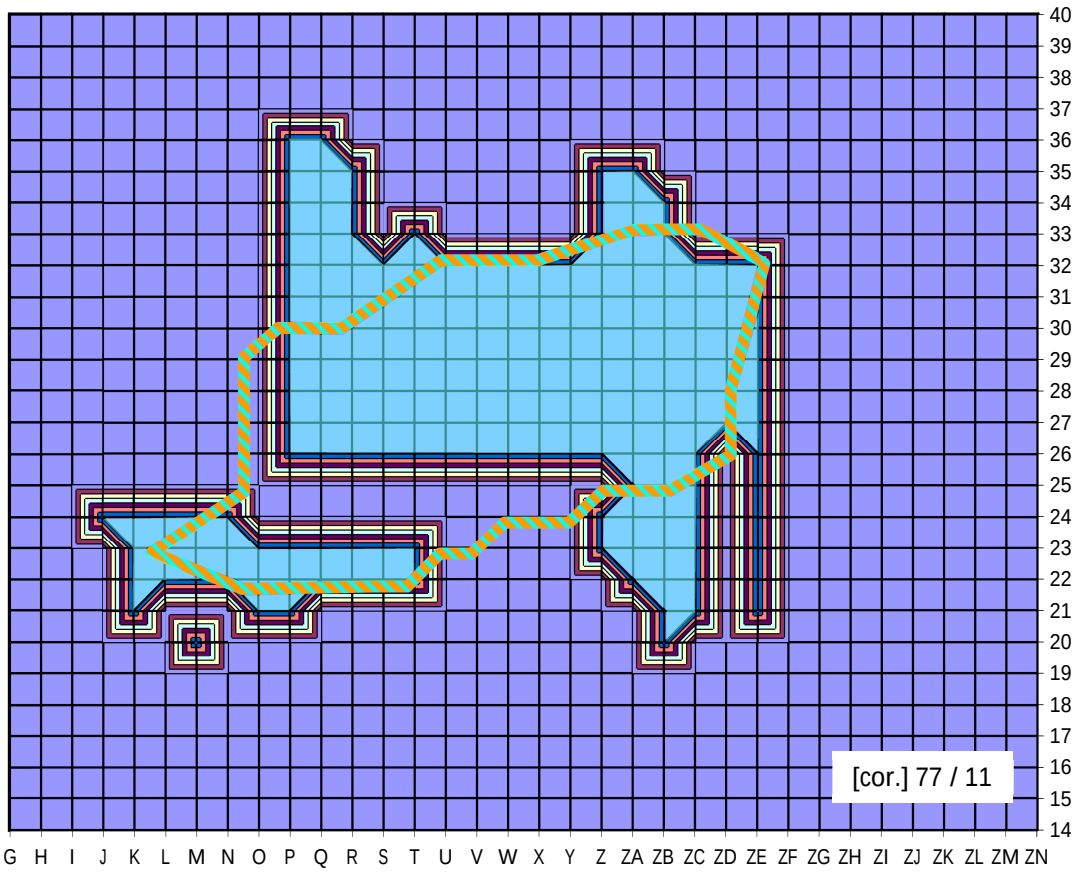


Fig.2.1-24: Areas relatable to the ship's remains. Grids registered for bows of the ship, July 2004 (green outline); grids registered when "cleaning" under the hull's sides during late September and October 2005 (red outline) and actual working positions in relation to the hull (blue).



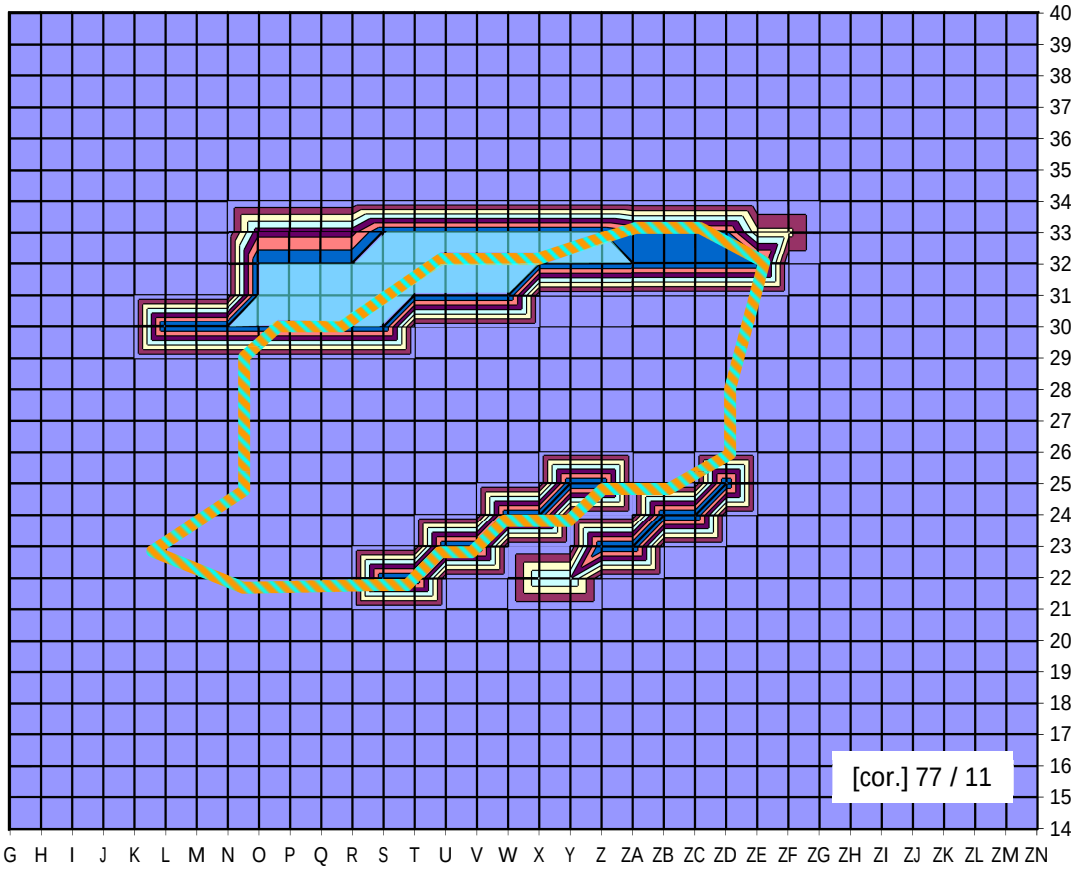


Fig.2.1-25: Outline of ship; objects registered between 50210 and 50606, following the courses of stacked ceramics inside the hull, above; sectors cleared under and in close vicinity of the hull's side planking, late September / October 2005, below.

Fig.2.1-26: A storage box of desalinated and classified bowls with their final registration data.

Fig.2.1-27: Percentages and totals of objects without warehouse coding entries. Above: overview; centre: <B(owl)*/loc>; below <KE(ndi)*/loc>.

Date	N°	Serial	Nam
28/04/04	25	B2	Bowl
28/04/04	26	B2	Bowl
28/04/04	27	B2 [>Jar]	Bowl
28/04/04	28	B2	Bowl
28/04/04	29	B2	Bowl

Date	N°	Serial	Nam
25/7/2005	128146	J3	Jar
25/07/2005	128147	B9	Bowl
25/7/2005	128148	B9 [>Jar]	Bowl
25/7/2005	128149	B9	Bowl
25/7/2005	128150	B9	Bowl

19/7/2004	10220	L9	Lid
19/7/2004	10221	Ke2	Kendi
19/7/2004	10222	B40 [>Jar]	Bowl
19/7/2004	10223	B40	Bowl
19/7/2004	10224	B40	Bowl

08/8/2005	133733	B6	Bowl
08/8/2005	133734	B6	Bowl
08/8/2005	133735	B6 [>Stcup]	Bowl
08/8/2005	133736	B6	Bowl
08/8/2005	133737	B6	Bowl

28/7/2004	15079	B33	Bowl
28/7/2004	15080	B33	Bowl
28/7/2004	15081	B33 [>Cbox]	Bowl
28/7/2004	15082	B17	Bowl
28/7/2004	15083	B17	Bowl

27/8/2005	146127	B1	Bowl
27/8/2005	146128	B1	Bowl
27/8/2005	146129	B1 [>Lid]	Bowl
27/8/2005	146130	B1	Bowl
27/8/2005	146131	B1	Bowl

08/07/2004	18511	B33	Bowl
08/07/2004	18512	B33	Bowl
08/07/2004	18513	B33 [>Lid]	Bowl
08/07/2004	18514	B33	Bowl
08/07/2004	18515	B33	Bowl

20/09/2005	150655	B7	Bowl
20/09/2005	150656	B7	Bowl
20/09/2005	150657	B7 [>Jar]	Bowl
20/09/2005	150658	B7	Bowl
20/09/2005	150659	B7	Bowl

19/8/2004	23906	B1	Bowl
19/8/2004	23907	B1	Bowl
19/8/2004	23908	B1 [>Cbox]	Bowl
19/8/2004	23909	B1	Bowl
19/8/2004	23910	B1	Bowl

07/10/2005	155597	B3	Bowl
07/10/2005	155598	B5	Bowl
07/10/2005	155599	B5 [>Cbox]	Bowl
07/10/2005	155600	B5	Bowl
07/10/2005	155601	B5	Bowl

26/2/2005	41411	B30	Bowl
26/2/2005	41412	B30	Bowl
26/2/2005	41413	B30 [>Jar]	Bowl
26/2/2005	41414	B30	Bowl
26/2/2005	41415	B30	Bowl

20/6/2004	4412	J25	Jar
20/6/2004	4413	Ke4	kendi
20/6/2004	4414	Ke1 [>Bowl]	kendi
20/6/2004	4415	Ru	Rubies
20/6/2004	4416	Sa	Saphire

18/3/2005	55870	B90	Bowl
18/3/2005	55871	B27	Bowl
18/3/2005	55872	B27 [>Lid]	Bowl
18/3/2005	55873	B27	Bowl
18/3/2005	55874	B27	Bowl

12/9/2004	27434	Ke17	Kendi
12/9/2004	27435	Ke17	Kendi
12/9/2004	27436	Ke17 [>Jar]	Kendi
12/9/2004	27437	Ke17	Kendi
12/9/2004	27438	Ke17	Kendi

13/4/2005	81745	B33	Bowl
13/4/2005	81746	B33	Bowl
13/4/2005	81747	B33 [>Lid]	Bowl
13/4/2005	81748	B33	Bowl
13/4/2005	81749	B33	Bowl

15/8/2005	137003	Ke1	Kendi
15/8/2005	137004	Ke1	Kendi
15/8/2005	137005	Ke1 [>Jar]	Kendi
15/8/2005	137006	Ke1	Kendi
15/8/2005	137007	Ke1	Kendi

27/5/2005	112350	B7	Bowl
27/5/2005	112351	B7	Bowl
27/5/2005	112352	B7 [>Ivory]	Bowl
27/5/2005	112353	B7	Bowl
27/5/2005	112354	B7	Bowl

21/09/2005	151373	Ke4	Kendi
21/09/2005	151374	Ke4	Kendi
21/09/2005	151375	Ke4 [>Bowl]	Kendi
21/09/2005	151376	Ke4	Kendi
21/09/2005	151377	Ke4	Kendi

Fig.2.1-28: A number of randomly selected instances of changes in notations of the general type of ceramic objects between the location and [>warehouse coding] systems and adjacent data in the spreadsheets kept aboard the salvage vessel.

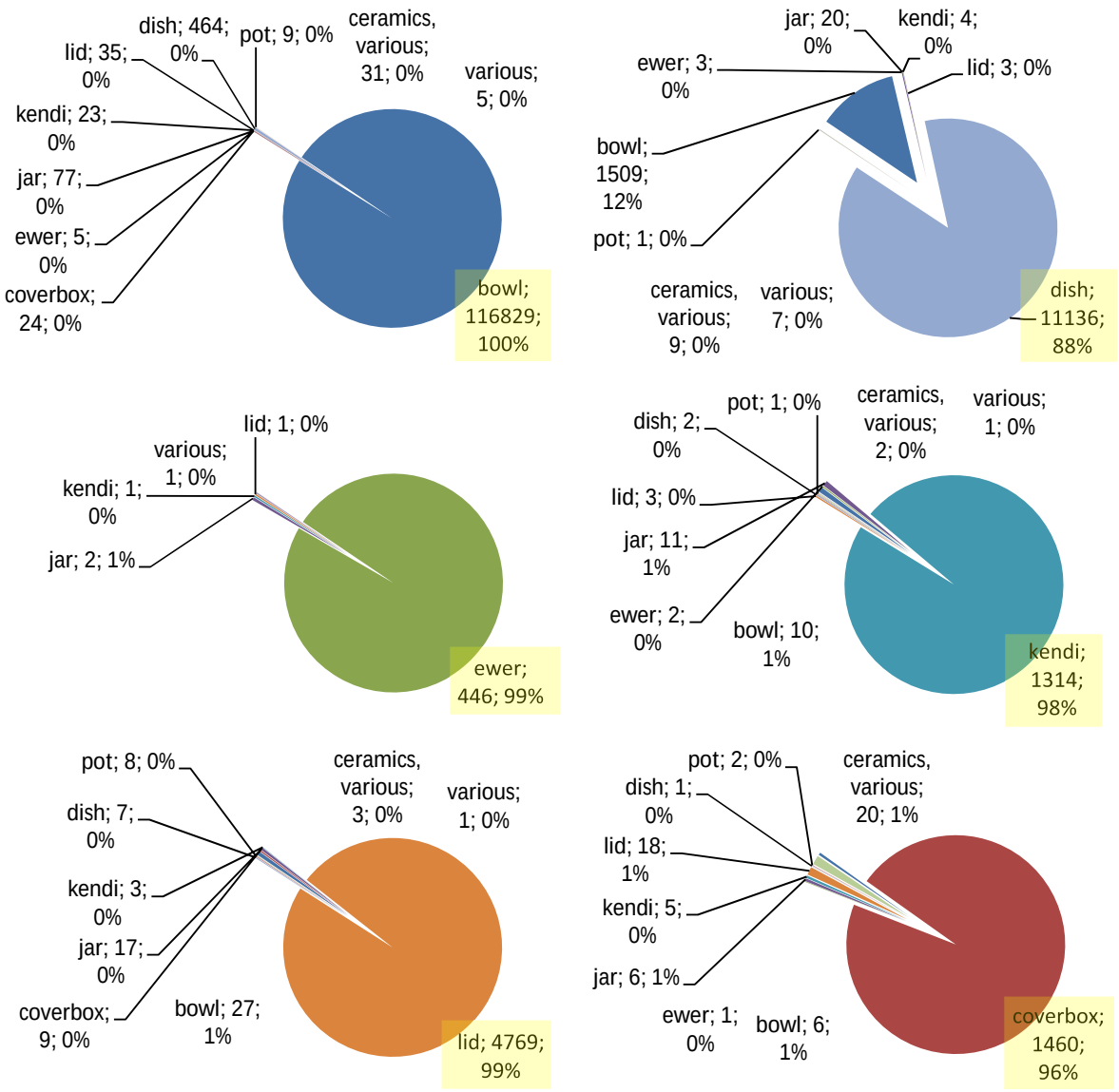


Fig.2.1-29: Comparisons of main classification types of ceramic tradewares as registered on location (shaded yellow) to result of re-registration in warehouse; objects without re-registration code omitted.

<code/loc>	*Total*	*Basic Inconsistencies Compared to Coding at Warehouse*	*%*	*No Code Given in Warehouse*	*%*
<B12>	247	5	2.0	22	8.9
<B17>	1944	27	1.4	107	5.5
<J3>	4780	31	0.6	227	4.7
<L*>	5115	66	1.2	268	5.2
<B6>	7157	49	0.7	294	4.1
<B9>	10361	41	0.4	409	3.9
<B5>	11398	29	0.3	335	2.9
<B1>	18524	43	0.2	721	3.9
<B1*>	23609	89	0.4	1117	4.7
<B3>	26981	71	0.3	1448	5.4
<B3*>	53472	205	0.4	2902	5.4
∑	*163588*	*656*	*0.4*[2]	*8078*	*4.9*
Average	*14871.64*	*59.64*	*0.72*	*713.64*	*4.96*

Fig.2.1-30: Inconsistencies in general classifications and objects without re-registration code, randomly chosen ware-groups (ER Liebner, 2007-12-05).

Date	N°	Serial	Name	Condition	Material	Photo	Length	Width	Dia bot	Dia Top	Dia Med	Height	Colour	Descriptive
22/04/04	1	B1	Bowl	B	C	Y			8	16		5.6	Gr-Gy	Bowl with cut
22/04/04	2	B2	Bowl	A	C	Y			9.3	20		7.5	Gr-Gy	Bowl with 6 rims
22/04/04	3	D1	Dish	A	C	Y			7.3	16.3		4.7	Gr-Gy	Small supper plate 5 rims
22/04/04	4	L1	Lid	A	C	Y			3	1.5	6.5	4	Gr-Gy	Lid round handle 4 rims
22/04/04	5	L2	Lid	B	C	Y			4.8	1	7.6	4	Gr-Gy	Lid round handle 2.6 cm long
22/04/04	6	L3	Lid	B	C	Y			3	1.6	5.8	3.7	Br	Lid 2 rims broken
22/04/04	7	J1	Jar	B	C	Y			10	8.8	24.5	31.5	Br	storage jar with small stones? 4 round and 2 square broken handles
23/04/04	8	L1	Lid	B	C	Y			3	1.5	6.5	4	Gr-Gy	Lid round handle 4 rims bad glaze
23/04/04	9	L1	Lid	B	C	N			3	1.5	6.5	4	Gr-Gy	Lid round handle 4 rims bad glaze
23/04/04	10	J2	Jarlet	A	C	Y			3.5	2.7	5.8	7.8	Gr-Bl	Jarlet 2 rims neck 3 cm long
...														
7/3/2005	47413	J3	Jar	B	C	N			7	4	13.6	12	Gr/Gy	Lotus jar, eroded
7/3/2005	47414	B30	Bowl	B	C	N			6.8	16		6.3	Gr/Gy	Bowl, 5 rims, carved ouside, glaze gone or chipped
7/3/2005	47415	D1	Dish	A	C	N			7.3	16.3		4.7	Gr/Gy	Supper plate, 5 rims
7/3/2005	47416	D1	Dish	A	C	N			7.3	16.3		4.7	Gr/Gy	Supper plate, 5 rims
7/3/2005	47417	D1	Dish	A	C	N			7.3	16.3		4.7	Gr/Gy	Supper plate, 5 rims
7/3/2005	47418	D1	Dish	A	C	N			7.3	16.3		4.7	Gr/Gy	Supper plate, 5 rims
7/3/2005	47419	D1	Dish	B	C	N			7.3	16.3		4.7	Gr/Gy	Supper plate, 5 rims, glaze gone or chipped
7/3/2005	47420	D1	Dish	B	C	N			7.3	16.3		4.7	Gr/Gy	Supper plate, 5 rims, glaze gone or chipped
...														
20/4/2005	92837	B3	Bowl	B	C	N			6.9	16.2		6	Gr/Gy	Bowl, glaze gone or chipped
20/4/2005	92838	B3	Bowl	B	C	N			6.9	16.2		6	Gr/Gy	Bowl, glaze gone or chipped
20/4/2005	92839	P42	Pot	B	C	Y			9.8	8.5	14	11	Gr/Gy	Pot, with 4 parrots in relief
20/4/2005	92840	Shell	Shell	B	C	Y	20				10		Wh	Shell, slulted
20/4/2005	92841	Bx25	Box	B	C	Y			6	9	10.5	4	Gr/Gy	Box, 5 rims
20/4/2005	92842	Bx25	Box	B	C	N			6	9	10.5	4	Gr/Gy	Box, 5 rims
20/4/2005	92843	B5	Bowl	B	C	N			8.7	17.2		6.3	Gr/Gy	Bowl, glaze gone or chipped
27/4/2005	92844	L3	Lid	B	C	N			15.5	2.2	13	6	Gr/Gy	Lid, glaze gone
...														
29/8/2005	146409	J3	Jar	B	C	N			7	4	13.6	12	Gr/Gy	Lotus jar, eroded
29/8/2005	146410	J3	Jar	B	C	N			7	4	13.6	12	Gr/Gy	Lotus jar, eroded
29/8/2005	146411	J4	Jar	A	C	N			9.5	9.6	19.8	20.3	Br	Jar with motifs
29/8/2005	146412	J4	Jar	A	C	N			9.5	9.6	19.8	20.3	Br	Jar with motifs
29/8/2005	146413	J4	Jar	A	C	N			9.5	9.6	19.8	20.3	Br	Jar with motifs
29/8/2005	146414	J4	Jar	A	C	N			9.5	9.6	19.8	20.3	Br	Jar with motifs
29/8/2005	146415	J4	Jar	B	C	N			9.5	9.6	19.8	20.3	Br	Jar with motifs, top chipped
29/8/2005	146416	J4	Jar	B	C	N			9.5	9.6	19.8	20.3	Br	Jar with motifs, top chipped

Fig.2.1-31: Excerpts of the registration spreadsheets kept on salvage location, here the columns noting classification criteria, measurements and descriptions.

Serial	Nam	Material	Dia Bot	Dia Top	Height	Colour
B1	Bowl	C	8	16	5.6	Gr/Gy
B2	Bowl	C	9.3	20	7.5	Gr/Gy
B3	Bowl	C	6.9	16.2	6	Gr/Gy
B4	Bowl	C	8.2	16.2	8	Gr/Gy
B5	Bowl	C	8.7	17.2	6.3	Gr/Gy
B6	Bowl	C	6.3	14	5.1	Gr/Gy
B7	Bowl	C	6.6	15.2	5.5	Gr/Gy
B8	Bowl	C	8	16.2	6.7	Gy-Br
B9	Bowl	C	10.3	20.8	8.1	Gr/Gy
B10	Bowl	C	6.5	15.5	6	Gr/Gy
B11	Bowl	C	9.5	18	5.5	Gr/Gy
B12	Bowl	C	8.5	16.5	7	Gr/Gy
B13	Bowl	C	6	14	4.8	Gr/Gy
B14	Bowl	C	8.8	16	8	Gr/Gy
B15	Bowl	C	8	20	7	Wh/Gy
B16	Bowl	C	5	13	4.7	Gr/Gy
B17	Bowl	C	9	19	6.5	Gr/Gy
B18	Bowl	C	8.5	18	6.5	Gr/Gy
B19	Bowl	C	6.3	19	6	Br
B20	Bowl	C	6.5	16.5	5.2	Gr/Gy
B21	Bowl	C	6.5	16.5	6	Gr/Gy
B22	Bowl	C	6.5	16.5	5.5	Gr/Gy
B23	Bowl	C	5.6	13.5	4	Gr/Gy
B24	Bowl	C	8	15.5	7	Gr/Gy
B25	Bowl	C	5.5	13.7	5	Gr/Br
B26	Bowl	C	7	16	4	Gr/Gy
B27	Bowl	C	7.2	16.3	6.5	Gr/Gy
B28	Bowl	C	9.7	21.5	8	Br/Go
B29	Bowl	C	8	15.5	7.6	Gr/Gy
B30	Bowl	C	6.8	16	6.3	Gr/Gy
B31	Bowl	C	7.3	12	6.5	Gr
B32	Bowl	C	7.3	16.2	6.4	Gr/Gy
B33	Bowl	C	9.3	18	6	Gr/Gy
B34	Bowl	C	4	10.7	5.2	Br
B35	Bowl	C	7.3	13	7	Gr
B36	Bowl	C	8	17	7.6	Gr
B37	Bowl	C	6.8	15	5	Gr/Gy
B38	Bowl	C	9	19.5	7.3	Gr/Gy
B39	Bowl	C	8.5	21	8	Gr/Gy
B40	Bowl	C	8.5	16	8	Gr/Gy
B41	Bowl	C	8.2	16.2	8	Gr/Gy
B42	Bowl	C	8.5	22	8.7	Gr/Gy
B43	Bowl	C	9	18.5	7	Gr/Gy
B44	Bowl	C	10		8	Gr/Gy
B45	Bowl	C	7.5	20.5	6	Br
B46	Bowl	C	9.5	21.5	9.5	Gr/Gy
B47	Bowl	C	6.5	15.5	6	Gr/Gy
B48	Bowl	C	7.5	15.5	7	Gr/Gy
B49	Bowl	C	7.7	15.5	8	Gr/Gy
B50	Bowl	C/P	8.5	19	7.7	Gr
B51	Bowl	C	6	12.5	4.8	Gr/Gy
B52	Bowl	C	5.8	13.5	4.4	Gr/Gy
B53	Bowl	C	6.8	16.3	5.7	Gr/Gy
B54	Bowl	C	8	18.2	8	Gr/Gy
B55	Bowl	C	9.5	20.5	8	Gr/Gy
B56	Bowl	C	7	16	6	Gr/Gy
B57	Bowl	C	9	17.5	8.7	Gr/Gy
B58	Bowl	C	9.5	16.2	9	Gr/Gy
B59	Bowl	C	5.8	13.8	5	Gr/Gy
B60	Bowl	C	5	11.7	4	Gr/Gy
B61	Bowl	C	6.5	15.5	6	Gr/Gy
B62	Bowl	C	8.5	17	7	Gr/Gy
B63	Bowl	C	10.5	17	8.5	Gr/Gy

Serial	Nam	Material	Dia Bot	Dia Top	Height	Colour
B64	Bowl	C	10	22.5	7	Wh
B65	Bowl	C	9	18.5	6.5	Gr/Gy
B66	Bowl	C	9	12.5	5	Gr/Gy
B67	Bowl	C	8.2	20.5	5.5	Gr/Gy
B68	Bowl	C	9.2	21	6	Gr/Gy
B69	Bowl	C	7.6	15.2	5.2	Wh
B70	Bowl	C	9	21.5	5.5	Gr/Gy
B71	Bowl	C	9	21.5	5.5	Gr/Gy
B72	Bowl	C	11.7	21	7.5	Gr/Gy
B73	Bowl	C	8.5	16	8	Gr/Gy
B74	Bowl	C	12	30	16	Gr/Gy
B75	Bowl	C	9	21	8	Gr/Gy
B76	Bowl	C	7.5	20	8	Gr/Gy
B77	Bowl	C	10.5	25.5	7.5	Br
B78	Bowl	C	7.5	14.2	6.5	Gr/Gy
B79	Bowl	C	9	31	9.5	Gr/Gy
B80	Bowl	C	9	16	8	Br
B81	Bowl	C	9	19.5	7.5	Br
B82	Bowl	C	8.5	20	7	Gr/Gy
B83	Bowl	C	7.5	19.5	7.3	Gr/Gy
B84	Bowl	C	9.5	18	7.5	Gr/Gy
B85	Bowl	C	7	19	7	Gr/Gy
B86	Bowl	C	9	20	7	Gr/Gy
B87	Bowl	C	9.5	20	8	Gr/Gy
B88	Bowl	C	5.5	12.5	5	Gr/Gy
B89	Bowl	C	6.5	17	7	Gr/Gy
B90	Bowl	C	5.5	13.5	5	Gr/Gy
B91	Bowl	C	8	21	8	Gr/Gy
B92	Bowl	C	7	19.5	5	Gr/Gy
B93	Bowl	C	8	14.5	8	Gr/Gy
B94	Bowl	C	7	14.5	6	Gr/Gy
B95	Bowl	C	8	12	5.5	Gr/Gy
B96	Bowl	C	11	28	7	Gr/Gy
B97	Bowl	C	11	25.5	9.3	Gr/Gy
B98	Bowl	C	4.5	9	4.2	Gr/Gy
B99	Bowl	C	6	11.5	3.8	Gr/Gy
B100	Bowl	C	4.8	11	3.5	Gr/Gy
B101	Bowl	C	6.7	11.3	6.5	Br
B102	Bowl	C	5.5	11.5	5	Gr/Gy
B103	Bowl	C	9	12.5	6.5	Gr/Gy
B104	Bowl	C	8	12.5	6	Gr/Gy
B105	Bowl	C	6	14	5.5	Gr/Gy
B106	Bowl	C	8.5	22.5	9.5	Gr/Gy

Serial	Nam	Material	Dia Bot	Dia Top	Height	Dia Med	Colour
D1	Dish	C	7.3	16.3	4.7		Gr/Gy
D2	Dish	C	9.2	14.3	3.8		Gr/Br
D3	Dish	C	9.5	14.7	4.3		Gr/Gy
D4	Dish	C	6.5	13.7	3.6	11	Br
D5	Dish	P	8	20	6.5		Wh
D6	Dish	C	9	18	4.5		Gr/Gy
D7	Dish	C	8	14.5	3.3		Gr/Gy
D8	Dish	C	13.3	20.9	7.1		Gr/Gy
D9	Dish	C	8.8	21.5	7		Wh/Bl
D10	Dish	C/P	5.5	15	4.2		Wh
D11	Dish	P	10	21	8.5		Wh
D12	Dish	C	5.5	14.5	4.5		Wh/Gr
D13	Dish	C	10	17.5	4.3		Gr/Gy
D14	Dish	P	10.5	22.4	8		Wh
D15	Dish	C	6.4	14	4		Gr/Gy
D16	Dish	C	7	14.2	5.5		Gr/Gy
D17	Dish	C	8	16	4		Gr/Gy
D18	Dish	C	11	16.5	4		Gr/Gy

Fig.2.1-32, cont. ..:

Serial	Nam	Material	Dia Bot	Dia Top	Height	Dia Med	Colour
D19	Dish	C	16	36	9		Br
D20	Dish	C	7	14.5	2.7		Gr/Gy
D21	Dish	P	8.5	19	6		Wh
D22	Dish	C/P	8.5	18	6.4		Wh/Gy
D23	Dish	C/P	8.8	21	4.5		Wh/Gr
D24	Dish	C	10	16	4.7		Gr/Gy
D25	Dish	C	8.5	13	3.5		Gr/Gy
D27	Dish	C	8.5	18.5	4		Gy/Wh
D28	Dish	C/P	9	20.5	4.1		Gr/Wh
D29	Dish	C	7.3	13.5	3.4		Gr/Gy
D30	Dish	C	8.3	14.5	3		Gr/Gy
D31	Dish	C/P	7.8	15	3.8		Gr/Gy
D32	Dish	C	7	16.3	4.4		Gr/Gy
D33	Dish	C	7.5	20	4.8		Wh/Br
D34	Dish	C	8	14.5	4		Gr/Gy
D35	Dish	C	7.9	17	5		Gr/Gy
D36	Dish	C	10.6	20.5	5.5		Gr/Gy
D37	Dish	C	6.5	12.5	3.4		Gr/Gy
D38	Dish	C	12.5	26.5	5.5		Gy
D39	Dish	C	10.2	16	4.5		Gr/Gy
D40	Dish	C	7.5	15.5	4.5		Gr/Gy
D41	Dish	C	8.7	16.5	3.5		Gr/Gy
D42	Dish	C/P	7.5	15	3.5		Wh/Gy
D43	Dish	C	8	16.5	4.8		Gr/Gy
D44	Dish	C	6.5	14.5	5		Wh
D45	Dish	C	7	17	4		Gr/Gy
D46	Dish	C	9	21.5	5		Wh
D47	Dish	C	11.5	16	5.4		Gr/Gy
D48	Dish	C	8	13.5	3.8		Gr/Gy
D49	Dish	C	5	11.5	3.5		Gr/Gy
D50	Dish	C	8	15.2	3.2		Wh
D51	Dish	C/P	6.2	15	4.7		Wh
D52	Dish	C	5	12	4		Br/Gy
D53	Dish	C	12	34	9		Gr/Gy
D54	Dish	C	6.7	16.3	3.5		Gr/Gy
D55	Dish	C	8	16	5.2		Gr/Gy
D56	Dish	C	10.5	16.5	4		Gr/Gy
D57	Dish	C	11	20.5	4.6		Gr/Gy
D58	Dish	C	8	21.5	5		Gr/Gy
D59	Dish	C	11.5	17.5	6		Gr/Gy
D60	Dish	C	8.3	15	3.1		Gr/Gy
D61	Dish	C	10	17	4		Gr/Gy
D62	Dish	C	8	16	4		Gr/Gy
D63	Dish	C	9.5	30	10		Gr/Gy
D64	Dish	C	10	24	8		Gr/Gy
D65	Dish	C	6.5	14	4		Gr/Gy
D66	Dish	C	8.4	19.5	6.5		Br/Wh
D67	Dish	C	8.5	16	3.5		Gr/Gy
D68	Dish	C	16.2	36	8		Gr/Gy
D69	Dish	C	9	20.5	5		Gr/Gy
D70	Dish	C/P	8.5	20.6	7.5		Wh
D71	Dish	C	10.5	20	5.5		Gr/Gy
D72	Dish	C/P	8	15.5	3.8		Wh
D73	Dish	C/P	9.5	22.5	5		Wh
D74	Dish	C	7.3	12.7	3.2		Gr/Gy
D75	Dish	C	12	30	11	28	Gr/Gy
D76	Dish	C	7.5	20	5		Gr/Gy
D77	Dish	C	8	21.5	5.5		Gr/Gy
D78	Dish	C	10.5	16.5	5		Gr/Gy
D79	Dish	C	11	17	5.5		Gr/Gy
D80	Dish	C	6.1	14/11	3.3		Gr/Gy
D81	Dish	C	6.8	10.3	3		Gr/Gy
D82	Dish	C/P	10	22.5	8		Wh

Serial	Nam	Material	Dia Bot	Dia Top	Height	Dia Med	Colour
D83	Dish	C	10	21.5	5		Gr/Gy
D84	Dish	C	10	18	4		Gr/Gy
D85	Dish	C	6.5	15	3.5		Gr/Gy
D86	Dish	C	7	19	3.5		Gr/Gy
D87	Dish	C	7.5	14	3		Gr/Gy
D88	Dish	C	10.5	22	4		Gr/Gy
D89	Dish	C	10.5	17	3.7		Gr/Gy
D90	Dish	C	7.5	18.5	4.5		Gr/Gy
D91	Dish	C	6	12/9.5	2.5		Gr/Gy
D92	Dish	C	6.8	13	3.5		Wh
D93	Dish	C	6.7		3	13	Gr/Gy
D94	Dish	C	7.5		3.7	15	Gr/Gy
D95	Dish	C	7		3.5	13	Gr/Gy
D96	Dish	C	6.5	12.5	4.5		Gr/Gy
D97	Dish	C	8.5		9.4	?	Gr/Gy
D98	Dish	C	4	9.5/5.7	4.7		Gr/Gy

Serial	Nam	Material	Dia Bot	Dia Top	Height	Dia Med	Colour
J1	Jar	C	10	8.8	31.5	24.5	Br
J2	Jar	C	3.5	2.7	7.8	5.8	Wh
J3	Jar	C	7	4	12	13.6	Gr/Gy
J4	Jar	C	9.5	9.6	20.3	19.8	Br
J5	Jar	C	8.1	4.8	16	13.7	Br
J6	Jar	C	6.8	6.5	16	15	Br
J7	Jar	P	3.4	3	5.8	6.5	Wh
J8	Jar	C	14	14	50	44	Br
J9	Jar	C	13	13	30	33.5	Br
J10	Jar	C	8.3	8	21	19.5	Br
J11	Jar	C	24	19	70	45	Br
J12	Jar	C	6	4	9	11	Br
J13	Jar	C	16	12.5	30	28	Br
J14	Jar	C	6.36	3.5	11.5	13	Br
J15	Jar	C	4	4.5	9	10	Br
J16	Jar	C	11.5	11	23	22	Wh/Br
J17	Jar	C		15	38	23	Br
J18	Jar	C		11	15.5	19	Br
J19	Jar	C	7.6		18	15.8	Br/Gy
J20	Jar	C	12	14	45	39	Br
J21	Jar	C	11	10	16	19	Br
J22	Jar	C	6	4.5	8	10.8	Gr
J24	Jar	C	6.5	4.2	10.6	11.7	Gr/Gy
J25	Jar	C	7.4	3.4	12.6	13.3	Wh/Gr
J26	Jar	C	5.5	4.2	10	10.5	Br
J27	Jar	C	12	10.6	42	40	Br
J28	Jar	C	7.5	3.5	11.8	13.6	Gr/Gy
J29	Jar	C	7	3.8	13.8	12.7	Gr/Gy
J30	Jar	C	3.6	3	6.5	6.8	Gr/Br
J31	Jar	C	24	17	66	56	Br
J32	Jar	C	3.8	2.6	6	7.1	Gr/Gy
J33	Jar	C	9	12.5	19.6	18	Br
J34	Jar	C	4.3	3.6	6	7.5	Br
J35	Jar	C		10	15	15.5	Br
J36	Jar	C	17.5	18	20	26	Br/Gr
J37	Jar	C	7.3	8	15.5	15.8	Br
J38	Jar	C	18.5	17	27	27	Gy/Br
J39	Jar	C	8.8	11	20	19.5	Br
J40	Jar	C	11.5	11	19	20.5	Br/Wh
J41	Jar	C	11.5	10.5	19	20.5	Wh
J42	Jar	C	13.5	11.5	31.5	29	Gr/Gy
J43	Jar	C/P	10.5	10	13.2	16	Gr/Gy
J44	Jar	C	13.5	15	48	42	Br
J45	Jar	C	4.6	3	10	7.7	Wh
J46	Jar	C	4.9	2.5	9.5	7.8	Gr/Gy

Fig.2.1-32, cont. ..:

Serial	Nam	Material	Dia Bot	Dia Top	Height	Dia Med	Colour
J47	Jar	C	6.9	4	13.2	13.6	Gr/Gy
J48	Jar	C	10.4	9.2	21.5	21	Gr/Gy
J49	Jar	C	7	8	11	13	Br
J51	Jar	C	9	9	19	19	Wh
J52	Jar	C	13	16	44	42	Br
J53	Jar	C	7	4	12	13.6	Gr/Gy
J54	Jar	C	12	11	21	16.5	Br
J55	Jar	C		10	17.5	17.5	Br
J56	Jar	C	7	10	11	14	Br
J57	Jar	C	15	12.5	21	21	Wh/Br
J58	Jar	C	3.3	2.7	7.5	5.2	Br
J59	Jar	C	7.2	5	15	15	Br
J60	Jar	C	5			24	Br
J61	Jar	C	25.5	27.5	89	68	Br
J62	Jar	C/P	3.5	3.2	5.2	6.5	Wh/Bl
J63	Jar	C		13.5	21.5	22.5	Br
J64	Jar	C	14.5	12.5	18	19.5	Gr/Gy
J65	Jar	C	7	6.5	16	14	Br
J66	Jar	C	3.3	2.5	5.6	6	Gy/Br
J67	Jar	C	5.5	4.8	7.3	9.7	Gr/Gy
J68	Jar	C	10	9.5	17	16.5	Gr/Br
J69	Jar	C	8	7.5	12	11.5	Br
J70	Jar	C	8.5	10.8	29	20	Gy/Br
J71	Jar	C	4.5	5	9	8.2	Br
J72	Jar	C	2.3	1	6.5	4.5	Gr/Gy
J73	Jar	C	5.8	4.5	10	11.5	Gr/Gy
J74	Jar	C	7.5	9	18	16.5	Br
J75	Jar	C		12	32	34	Br
J76	Jar	C	8.2	11.5	19	18	Br
J77	Jar	C	8	8	13.5	13	Gr/Gy
J78	Jar	C	5.6	4.5	11	10	Br
J79	Jar	C	3.5	1.8		5.5	Wh/Gy
J80	Jar	C	12	10	22.5	22.5	Br
J81	Jar	C	3.5	2.3	5	6.2	Wh
J82	Jar	C	11	10.5	14	17	Wh/Gy
J83	Jar	C	5.5	7.5	12	12	Br
J84	Jar	C	3.8	3.8	8	5.8	Gr/Gy
J85	Jar	C	6.6	8.1	13.5	12	Br
J86	Jar	C	10.5	9	13	13.5	Br
J87	Jar	C	13	12.5	29	29.5	Gr/Gy
J88	Jar	C	12	10	20.5	20.5	Wh/Gy
J89	Jar	C		12.5	24	24.5	Br
J90	Jar	C	9.5	8.5	22	17	Wh/Gy
J91	Jar	C	11.5	10	20	18.5	Gr/Gy
J92	Jar	C	12	12	27	27	Wh/Gy
J93	Jar	C	15	13	23	21.5	Gr/Gy
J94	Jar	C	0	12	17	20.5	Br
J95	Jar	C	3.2	2.2	6	7	Gr/Gy
J96	Jar	C	7.4	4.9	7.4	10.9	Gr/Gy
J97	Jar	C	8	6	10.5	13.4	Gr/Gy
J98	Jar	C	8	5	7.5	11.2	Gr/Gy
J99	Jar	C	15	15	27	22	Gr/Gy
J100	Jar	C	5	4.5	8	9	Br
J101	Jar	C	11	10.5	28	23	Br
J102	Jar	C	6	9	8.8	13	Wh/Gy
J103	Jar	C	8.5	10.5	20	17	Wh/Gy
J104	Jar	C	10.5	12	12	20	Wh/Gy
J105	Jar	C	11	13	27	25.5	Br
J106	Jar	C	8.2	6.7	11	13	Gr/Gy
J107	Jar	C	5.2	5	6.5	9.8	Gr/Gy
J108	Jar	C	3.5	2.8	6.7	5.3	Gr/Gy
J109	Jar	C	2.5	2.5	3.3	4.5	Wh
J110	Jar	C		13.5	27	28	Br

Serial	Nam	Material	Dia Bot	Dia Top	Height	Dia Med	Colour
J111	Jar	C	9.5	11.5	17.5	19	Br
J112	Jar	C	13	11.5	20	20	Wh/Gy
J113	Jar	C	12	10.5	24	21	Wh/Gy
J114	Jar	C	17	12.5	36	35	Br
J115	Jar	C	12	13	35	29.5	Gr/Gy
J116	Jar	C		16.5	33	31	Br
J117	Jar	C	16	14	29	27	Bk
J118	Jar	C	7.5	11	27	18	Bk
J119	Jar	C	7.5	8.5	17	12.5	Br
J120	Jar	C/P	5.2	3.5	6.2	8.2	Wh
J121	Jar	C	7.6	9.3	18	15.5	Br
J122	Jar	C/P	4.6	4.6	7.2	8.9	Wh
J123	Jar	C	9.5	12	24	18.5	Br
J124	Jar	C/P	3.7	2.7	4.5	6.5	Wh
J125	Jar	C	16	13	25	23	Gr/Gy
J126	Jar	C	10	8.5	20	15	Gr/Gy
J127	Jar	C	11.2	10	14.3	14	Gr/Gy
J128	Jar	C	13.5	14	29	27	Br
J129	Jar	C	10.5	11	37	28	Gr/Gy
J130	Jar	C	6.5	6.5	13	13	Gr/Gy
J131	Jar	C	5.5	3	10	9.8	Gr/Gy
J132	Jar	C	7.5	5	15	13	Br
J133	Jar	C	9	9.5	17	18.5	Wh
J134	Jar	C	7	4.5	14	13.5	Gr/Gy
J135	Jar	C	9.8	9.5	19.5	19.5	Wh
J136	Jar	C	9.2	11.5	13	19	Br
J137	Jar	C		11.5	27	23.5	Br
J138	Jar	C	12.5	10.7	26	24.5	Gr/Gy
J139	Jar	C	7	7.5	14	14	Br
J140	Jar	C	2.2	2.2	3.5	4.8	Wh
J141	Jar	C	2.2	2.2	4.5	2.5	Wh
J142	Jar	C	4.5	3.5	5.5	7	Br

Serial	Nam	Material	Dia Bot	Dia Top	Height	Dia Med	Colour
Co1	Cover	C	10.5	7.6	3.3		Gr
Co2	Cover	C	16.8	14.8	9.2		Br
Co3	Cover	C	9.4	7.2	2	9	Br
Co4	Cover	C	23	17.5	8.4	21.5	wh/Gr
Co5	Cover	C	13.5	8	4	13.5	Gr/Gy
Co6	Cover	C	10.5	4.5	2.5	9.2	Br
Co7	Cover	C	6.3	4	2		Br
Co8	Cover	C	10	7	4		Br
Co9	Cover	C	9		2	9	Br/Gy
Co10	Cover	C	10.4	5.5	4.8		Br
Co11	Cover	C	6.5	5	2		Gr/Gy
Co12	Cover	C	8	8.1			Br
Co13	Cover	C	8.6	1	3.9	8.6	Gr/Gy
Co14	Cover	C	10	9.3	2		Gr/Gy
Co15	Cover	C	7.3	0.5	4.5		Wh
Co15	Cover	C	22.5		8	22.5	Gr/Gy
Co16	Cover	C	11	4.5	5.5		Gr/Gy
Co17	Cover	C	10.8	10	2		Gr/Gy
Co18	Cover	C	12.3	10	3.2		Gr/Gy
Co19	Cover	C	6	2	6.5	5	Gr/Gy
Co20	Cover	C	6.8	5	2		Wh/Gy
Co21	Cover	C	13.5	10.2	3.5		Gr/Gy
Co22	Cover	C	22.5	22.5	8		Gr/Gy
Co23	Cover	C	6.4	4.5	1.8		Wh
Co24	Cover	C	6.8	6	1.4		Gr/Gy
Co25	Cover	C	6	1	3.5		Gr/Gy
Co26	Cover	C	7	5	2.5	7	Wh
Co27	Cover	C	6.3	2	3.5		Wh

Fig.2.1-32, cont. ..:

Serial	Nam	Material	Dia Bot	Dia Top	Height	Dia Med	Colour
Co28	Cover	C	4.3	3	1.2	4.3	Wh
Co29	Cover	C	11.1	8.6	2		Gr/Gy
Co30	Cover	C	10	1	4.3		Br
Co31	Cover	C	8	7	2.4	8.4	Gr/Gy
Co32	Cover	C	6	6.3	1.6		Gr/Gy
Co33	Cover	C	12.2	9.3	3.5	11.5	Gr/Gy
Co34	Cover	C	4.3	0.6	2.5		Wh
Co35	Cover	C	7.6	3.4	1.7	7.6	Gr/Gy
Co36	Cover	C	18	7.5	7		Gr/Gy
Co37	Cover	C	11	8	2.1	11	Gr
Co38	Cover	C	11	10	2		Gr/Gy
Co39	Cover	C	15.5	9	4.5		Gr/Gy
Co40	Cover	C	19	11.5	10.5		Br

Serial	Nam	Material	Dia Bot	Dia Top	Height	Dia Med	Colour
L1	Lid	C	3	1.5	4	6.5	Gr/Gy
L2	Lid	C	4.8	1	4	7.6	Gr-Gy
L3	Lid	C	3	1.6	3.7	5.8	Gr/Gy
L4	Lid	C	13.5	1.3	5	17	Br
L5	Lid	C	6.5		2	9	Br
L6	Lid	C	10	3.3	6	12	Br
L7	Lid	C	14	3	5.5	11	Br
L9	Lid	C	3.3	1.5	4	6.5	Gr/Gy
L10	Lid	C	3.5	1.4	3.3	6.3	Gr
L11	Lid	C	3.3	1.3	2.8	6	Gr
L12	Lid	C	5.4	2	2.5	8.3	Br
L13	Lid	C	17.5	1.2	5.5	16	Br
L14	Lid	C	4	2	4	7	Gr/Gy
L15	Lid	C	17.5		10	12.5	Br
L16	Lid	C	19.5	2.7	5	12	Gr/Gy
L17	Lid	C	2.7	1.3	2	5	Gr/Gy
L18	Lid	C	13.2	3	5	11.2	Gy/Gr
L19	Lid	C	21.5	3.8	15	19	Br
L24	Lid	C	5.5	1.5	3	10.5	Wh/Gy
L25	Lid	C	2	0.9	3	3.4	Wh
L26	Lid	C		24	13	25	Br
L27	Lid	C	15	2.5	7		Br
L28	Lid	C	3.8	1.9	4.8	8.6	Gr/Gy
L29	Lid	C	15.5	2.2	6	13	Gr/Gy
L30	Lid	C	24	23	12		Br
L31	Lid	C	6.3	2.1	6.8	52	Gr/Gy
L32	Lid	C	14.5	3	5		Br
L33	Lid	C	8.6	3	3.5		Br
L34	Lid	C	13.5	1	5	17	Gr/Gy
L35	Lid	C	6.3	2.2	6.1		Gr/Gy
L36	Lid	C	3	0.8	3	6	Gr/Gy
L37	Lid	C	11.5	3.8	4.5	12	Br
L38	Lid	C	12.5	4.3	4	12.5	Br
L39	Lid	C	15.5	14	6	13	Bk
L40	Lid	C	5.3	1.8	5.8	4	Gr/Gy
L41	Lid	C	5.8	2.1	6.5	4.2	Gr/Gy
L42	Lid	C	11	5	4.5		Gr/Gy
L43	Lid	C	6.3	1.7	4.5	9.3	Gr/Br
L44	Lid	C	4.2	0.7	2.6	5.4	Gr/Gy
L45	Lid	C	6.5	2	7.8	5.4	Gr/Gy
L46	Lid	C	4.7	1.6	3.5	6.5	Gr/Gy
L47	Lid	C	15.3	1	5	12.5	Gr/Gy
L48	Lid	C	7.5	2	4.5	9.5	Gr/Gy
L49	Lid	C	11		2	11	Gr/Gy
L50	Lid	C	17.5	5.5	9.5	9	Br

Serial	Nam	Material	Dia Bot	Dia Top	Height	Dia Med	Colour
Bx1	Box	C	8	10.5	3.5		Br
Bx2	Box	P	3	6	3	7.5	D81
Bx3	Box	P	4	6	4.3	7.5	Wh
Bx4	Box	C	4	7.7	2.5	8.7	Br
Bx5	Box	C	3.3	5.1	4	6.8	Wh/Gy
BX6	Box	C	4	6.2	4.4	7.4	Wh
BX7	Box	C	4	10	2.5	10.5	Br
BX8	Box	C	5.7	10.3	5		Br
Bx9	Box	C/P	3.5	6.2	4.5	7.2	Wh/Br
Bx10	Box	C	8.7	9.5	4	11	Gr/Gy
Bx11	Box	C/P	2.5	3.5	3	4.5	Wh/Gy
Bx12	Box	C/P	4	6.6	4.5	7.5	Wh/Gy
Bx13	Box	C/P	3.7	5.1	4	6.5	Wh/Gy
Bx14	Box	C/P	3	4	2.5	4.8	Wh
Bx15	Box	C	5.4	10.9	2.4	11.7	Gr
Bx16	Box	C	3.5	5.5	2.2	6.5	Br
Bx17	Box	C	10	14	8	16	Gr/Gy
Bx18	Box	C	9.1	12	7	13.3	Gr/Gy
Bx19	Box	C	4.1	6.6	1.9	7.5	Gr/Gy
Bx20	Box	C	8	15	7	17	Gr/Gy
Bx21	Box	C	7.5	12	3.8	13.5	Gr/Gy
Bx22	Box	C	16.5	20	10.5	22.3	Gr/Gy
Bx23	Box	C	13	16.5	8	18	Gr/Gy
Bx24	Box	C/P	3.1	5.1	3.7	6.3	Wh
Bx25	Box	C	6	9	4	10.5	Gr/Gy

Serial	Nam	Material	Dia Bot	Dia Top	Height	Dia Med	Colour
CB1	Covered box	C	4	5	7.5	10.5	Br
CB2	Covered box	C/P	4	5	6.5	7.5	Wh/Br
CB3	Covered box	C	5	7	3.8	8.5	Gr/Gy
CB4	Covered box	C/P	3.5	4.5	5.5	6.5	Wh/Gy
CB5	Covered box	C/P	3.5	6.8	6.7	7.3	Wh/Gy
CB6	Covered box	C/P	3.2	0.8	6.7	6.2	Wh/Gy
CB7	Covered box	C/P	2.5	3.5	3.5	4.5	Wh
CB8	Covered box	C/P	3.5	4.2	2.7	7.7	Gr/Gy
CB9	Covered box	C/P	3.5	2	6.1	6.3	Wh
CB10	Covered box	C	8	10	7.5	13.5	Gr/Gy
CB11	Covered box	C	8	17.5	13		Gr/Gy
CB12	Covered box	C	7.5		16	19	Gr/Gy
CB13	Covered box	C	8		7	10	Gr/Gy
CB14	Covered box	C	17		17	22	Gr/Gy
CB15	Covered box	C	7.5	11.5	4.5	13.5	Gr/Gy

Serial	Nam	Material	Dia Bot	Dia Top	Height	Dia Med	Colour
P1	Pot	C	6.6	7.3	4.8	12	Br-Wh
P2	Pot	P	7.4	10.3	11.1	15.1	Wh
P3	Pot	P	8.6	9.4	10.9	14.9	Wh
P4	Pot	C	19.5	24.5	10		Br
P5	Pot	C	25.5	34	14.5		Br
P6	Pot	C	26	29	12	32	Br/Gy

Fig.2.1-32, cont. ..:

Serial	Nam	Material	Dia Bot	Dia Top	Height	Dia Med	Colour
P7	Pot	C/P	4.8	3.5	7.7	8	Wh/Gy
P8	Pot	C/P	5.7	8.1	4.3	11.5	Wh/Gy
P9	Pot	C	8.6	13.5	8.5		Br
P10	Pot	C/P	4.7	10.6	5		Wh/Gy/Gr
P11	Pot	C		18	10.5	20	Br
P12	Pot	C		20	13	22	Br
P12	Pot	C	24	32	12.5	11.2	Br
P13	Pot	C	6.4	4.7	5.3	9.7	Bk
P14	Pot	C	24.5	32.5	13.5		Gr/Gy
P15	Pot	C	31	42	14.5		Gr/Gy
P16	Pot	C		22	14	24	Br
P17	Pot	C			20	42	Br
P19	Pot	C		29	18.5	32	Br
P20	Pot	C	6	14	10	14	Br
P21	Pot	C	8.5	8	9.4	14	Gr/Gy
P22	Pot	C	10	18	9.5	20.5	Gr/Gy
P23	Pot	C/P	8	9.5	11.5	15.7	Wh/Br
P24	Pot	C	21	26	13		Br
P25	Pot	C	9	18	8.8	22	Br
P26	Pot	C	5.5	9	6	11.5	Gr/Gy
P27	Pot	C	6.5	19	11.5	16.5	Br
P28	Pot	C	4.2	7.5	4.3	8.5	Gr/Gy
P29	Pot	C	49	65	21		Gr/Gy
P30	Pot	C	26	33	16		Br
P31	Pot	C	6.3	10.6	5	12.3	Gr/Gy
P32	Pot	C	7.7	7.5	6	12	Br
P33	Pot	C	9.2	15.5	9.5	21	Br
P34	Pot	C	7.8	20	13	11.8	Gr/Gy
P35	Pot	C/P	7.5	9.3	12.5	14	Wh
P36	Pot	C	30	37	14		Wh/Br
P37	Pot	C		21	12.5	22	Br
P38	Pot	C	6	16	14	16	Gr/Gy
P39	Pot	C/P	7.5	9	10.5	14	Wh
P40	Pot	C	7	10	9	13	Wh
P41	Pot	C	11	8	19.5	21	Wh
P42	Pot	C	9.8	8.5	11	14	Gr/Gy
P43	Pot	C	4.7	8	3.8	10	Gr/Gy
P44	Pot	C		15.5	6		Br
P45	Pot	C		15.5	7	15	Br

Serial	Nam	Material	Dia Bot	Dia Top	Height	Dia Med	Colour
Ke1	Kendi	C	9.2	2.4	17.2	18.4	Br
Ke2	Kendi	C	9	8.8	22	20	Br
Ke3	Kendi	C	6	7	17	18.5	Br
Ke4	Kendi	C	7.5	4.5	18	17.5	Br/Gy
Ke5	Kendi	C	8	5.5	16.5	15.5	Br
Ke6	Kendi	C	6.5	7	18.5	14.5	Br
Ke7	Kendi	C	6	7	17	13	Gr/Gy
Ke8	Kendi	C	4.8	1.8	8.8	9.5	Br
Ke9	Kendi	C	7	5.8	18.2	14.5	Br
Ke10	Kendi	C	7	3.5	21	14	Br
Ke11	Kendi	C	8	6.5	15.5	17.5	Br
Ke12	Kendi	C	7.3	7	18	14.3	Br
Ke13	Kendi	C	7.3			13.6	Br
Ke14	Kendi	C	6	3.5	12.6	12.2	Br
Ke15	Kendi	C	9	7	21	13.8	Br
Ke16	Kendi	C	7.8	7	18	15	Br
Ke17	Kendi	C	8	7	16.4	15.4	Br
Ke18	Kendi	C	8	7	22	15.6	Br
Ke19	Kendi	C	13	7	34	24.5	Br
Ke20	Kendi	C	8	7	21.5	12	Br
Ke21	Kendi	C	8	7	16	15	Br

Serial	Nam	Material	Dia Bot	Dia Top	Height	Dia Med	Colour
Ke22	Kendi	C		7	14.8	17	Br
Ke23	Kendi	C	7	7	17	13	Gr/Gy
Ke24	Kendi	C	8	7	20	16	Br
Ke25	Kendi	C	7.5	6.5	18	13.5	Gy/Br
Ke27	Kendi	C	23	17			Br
Ke28	Kendi	C	8	6		16	Br
Ke29	Kendi	C	6.8	7		15	Br
Ke30	Kendi	C	7.5	6.5	17.5	13.7	Gr/Gy
Ke31	Kendi	C	9.5	8.5	21.5	17.5	Br
Ke32	Kendi	C	8	7.3	15	18.2	Br
Ke33	Kendi	C	7.8	5.7	12	16	Br
Ke34	Kendi	C	8.2	7	18	18	Br
Ke35	Kendi	C	9.7	6.7	17	16.8	Br
Ke36	Kendi	C		11	17	18	Br
Ke37	Kendi	C	6.8	6.6	18.5	13	Gr/Gy
Ke38	Kendi	C	8	4		18	Br
Ke39	Kendi	C	9			18.5	Br
Ke40	Kendi	C	12.5	11	37	24	Br
Ke41	Kendi	C	6	7	11.5	17	Br
Ke42	Kendi	C	7	6	13	12.5	Br
Ke43	Kendi	C	6	7	17	18.5	Br
Ke44	Kendi	C	9	7	17	16	Br
Ke45	Kendi	C	6.7	6.8	19.2	12	Br
Ke46	Kendi	C	7.5	6.6	17.5	15.5	Br
Ke47	Kendi	C	9.5	10	40	22.5	Br
Ke48	Kendi	C	12	12	33	25.5	Br
Ke49	Kendi	C	9	6	22	15	Bk
Ke50	Kendi	C		7	19	17.5	Br
Ke51	Kendi	C	3.2	4	8.4	6	Gr/Gy
Ke52	Kendi	C	6	7	18.5	12	Br
Ke53	Kendi	C	8	6.5	12.5	12.5	Br
Ke54	Kendi	C	7.5	7	20	13	Gr/Gy
Ke55	Kendi	C	6	4	11	12	Br
Ke56	Kendi	C	7			11.5	Br
Ke57	Kendi	C	8	10.5	32	18	Br

Serial	Nam	Material	Dia Bot	Dia Top	Height	Dia Med	Colour
E1	Ewer	C	7	6.5	17.5	14	Gr/Gy
E2	Ewer	C	7	8	20	14.3	Gy/Br
E3	Ewer	C	8.3	8	18	15.7	Gr/Gy
E4	Ewer	C	6	7.1	14	10	Gr/Gy
E5	Ewer	C	8	5.5	14.5		Br
E6	Ewer	C	8	5	14.05	14	Br
E7	Ewer	C	7.5	5	14	14	Gr/Gy
E8	Ewer	C	8.5			12.5	Br/Gy
E9	Ewer	C	6.5		18	9.5	Br
E10	Ewer	C	8	12	24	14	Gr/Gy
E11	Ewer	C	9.5	5.2	16	15	Gr/Gy
E12	Ewer	C	9.3	5	15	13.5	Br/Gy
E13	Ewer	C/P	6.5		10	11.8	Wh/Bl
E14	Ewer	C	5.7	7	19.5	9.5	Br
E15	Ewer	C	7.5	8	21.2	15	Gr/Gy
E16	Ewer	C	7.6	9	20	9.8	Gr/Gy
E17	Ewer	C	10	15.5	35.5	23	Gr/Gy
E18	Ewer	C	8.2	10.5	22.5	14.5	Wh
E19	Ewer	C	8.5	9	20.5	13.8	Gr/gy
E20	Ewer	C	5.2	6.4	14	9	Gr/Gy
E21	Ewer	C	9.2	10	24	13	Br
E22	Ewer	C	11	11.5	32	13	Gy/Br
E23	Ewer	C	7.8	4	15.5	14	Gr/Gy
E24	Ewer	C	5	6.8	13	9.5	Gr/Gy
E25	Ewer	C	8.3	5	14.5	14	Gr/Gy
E26	Ewer	C	9	5	14	15	Gr/Gy

Fig.2.1-32, cont. ..:

Serial	Nam	Material	Dia Bot	Dia Top	Height	Dia Med	Colour
E27	Ewer	C	8.3	4.5	16	13.5	Gr/Gy
E28	Ewer	C	7	9	19	13	Gr/Gy
E29	Ewer	C	9.4	5.3	16	15	Gr/Gy
E30	Ewer	C	8.2	9.7	18.5	10.5	Gr/Gy
E31	Ewer	C	8.7	10	22	16	Wh/Gy
E32	Ewer	C	8.5	5	14	13	Gr/Gy
E33	Ewer	C	9.5	8.5	23	18	Gr/Gy
E34	Ewer	C	5.4			9	Gr/Gy
E35	Ewer	C	9.7	7.2	13	14	Gr/Gy
E36	Ewer	C	3.9	4.4	8.5	6.2	Gr/Gy
E37	Ewer	C					Br
E38	Ewer	C	7.2	9	19	12.2	Gr/Gy
E39	Ewer	C	6	5.5	9.7	9	Br
E40	Ewer	C	8	9.5	21	12	Gr/Gy
E41	Ewer	C	9	5.5	17	14.5	Gr/Gy
E42	Ewer	C	9		21	14	Gr/Gy
E43	Ewer	C	6.5	8.5	10		Br
E44	Ewer	C	6.5	6.5	15.5	12	Gr/Gy

Serial	Nam	Material	Dia Bot	Dia Top	Height	Dia Med	Colour
SC4	Stem Cup	C	10.8	13.3	12	5.8	Br
SC5	Stem Cup	C	10	14	12	2.8	Br
SC6	Stem Cup	C	11	12	15	8.8	Br
SC7	Stem Cup	C		19.5			Br
SC8	Stem Cup	C	9	15	12.5		Br
EB1	Stem cup	C	11.5	17.5	15	8	Br

BO1	Bottle	C/P	10	10	51	21	Wh
BO2	Bottle	C/P	10	15	37.5	2.3	Wh
BO3	Bottle	C/P	9.5		29	12.5	Bk
V1	Vase	C	7.7	9.5	16	10.5	Gr/Gy
C1	Cup	C	6.5			Br	
C2	Cup	C	7.1	10.2	7.2	Gr/Gy	
Ho1	Hooka	C	8	1	29	13	Gr/Gy
Ib1	Insence burner	C	12.5	12	11.5	5.5	Br
Ib2	Insence burner	C	11.5	2.2	10.5	4.4	Br
Ib3	Insence burner	C	10	16	4		Gr/Gy
Ib4	Insence burner	C	9.5	8	10	12.5	Gr/Gy

Serial	Nam	Material	Dia Bot	Dia Top	Height	Dia Med	Colour
SC1	Stem Cup	C	11.5	17.5	15	8	Br
SC2	Stem Cup	C	10.5	10.7		12.5	Br
SC3	Stem Cup	C	11.2	14.5	13.5	5.2	Br

Serial	Nam	Material	Colour
Am	Amethetist	Am	Ma
Bch	Bronze	Br	Br
Blf	Bronze lion feet	Br	Br/Gy
Blf	Bronze	Br	Br
Br	Bronze	Br	Bk
Br1	Bot-Rim	C	Gr
Br1	Bronze	M	Br
Brc	Bronze cover	Br	Br
BrCo1	Cover	Br	Br
Brh	Bronze handle	Br	Br
Brk	Bronze key	Br	Br
Brn	Bronze nail	Br	Br
BrR	Bronze	Br	Br
Bu1	Symbol	C	Br
Bucl	Buckel	?	
ChCo	Chines Coins	Br	
Cop	UN	Copper	
CoPe	Coral beads	Coral	Re/Bk
CoS	Etching copper	Co	
CoS	Etching copper	Co	
Cr	Crystal	Cr	Tr
F1	Figurine	C	Br
F2	Figurine	C	Br
F3	Figurine	C	Gr/Gy
F4	Figurine	C	
F5	Figurine	C	Br
F6	Figurine	Iron	Bk
F7	Figurine	Br	Bk

Serial	Nam	Material	Colour
F8	Figurine	Br	Bk
F9	Figurine	C	Gr/Gy
F10	Figurine	C	Br
F11	Figurine	Glass	
Ga	Garnet	Ga	Re
Gl	Glass	Glass	Gr
GlBt	Glass Bottle	Glass	
GlPe	Glass beads	Glass	
Go	Gold	Go	Go
GoCh	Goldenchain	Go	Go
GoSB	Goldsnuffbox	GO	Go
GrSt	Grinding stone	St	Bk
In1	Ingot	Ti	Bk
In2	Ingot	Silver	Bk
IP1	Ink pot	C	Gr/Gy
Iv	Ivory	Ivory	Ye
Ja	Jade	Jade	Gr
LeRi	leadRing	Le	
Mi1	Mirror		Bk
Mi2	Mirror		Bk
Mi3	Mirror	Br	Bk
Mi4	Mirror	?	Bk
Mi5	Mirror		Bk
Mi6	Mirror		Bk
Mi7	Mirror		Bk
Mi8	Mirror		Bk
Mi9	Mirror	Br	Br
Mi10	Mirror	Br	Br
Mi11	Mirror	Br/Si	Bl
Mi12	Mirror	Br/Si	Bk
Mi13	Mirror	Br/Si	Bk

Serial	Nam	Material	Colour
Mi14	Mirror	Br/Si	Bk
Mi15	Mirror	Br/Si	Bk
Pe	Pearls	Pe	
Pes1	Pestle	Gra	Bk
Pes2	Pestle	Stone	
PH1	Phial	Gl	Gr
PH2	Phial	Gl	Gr
PH3	Phial	Gl	Gr
PH4	Phial	Gl	Gr
PH5	Phial	Gl	Wh
PH6	Phial	Gl	Gr
PH7	Phial	Gl	Gr
PH8	Phial	Gl	Gr
Pi1	Pillow	C	Br
Qu	Quartz	Tr	Tr
Ri	Ring	Lead	Bk
Ru	Rubies	Ru	Re
Sa	Sapphire	Sa	
Sl1	Slate	Sl	Gr
Sl2	Slate	Sl	Gr
St	Stone	St	
Sto1	Stove	C	Br
StPe	Stone beads	St	
StRi	Stone Ring	St	
StSt	Intaglia	St	
Tri1	tripood	Ir	
Tri2	tripood	Ir	Bk
Tri3	tripood	Ir	Bk
UN	?	?	
WBx	Woodenbox	Wood	
WCBX	Woodenbox	Wood	

Fig.2.1-32, cont.: Shortlist of classification, material and colour codes in use on salvage location. Measurements of ceramics in cm.

Serial Shortlist	Serials in Compiled Data	Number of Objects
	(Blank)	5
	?	23
Am	Am	1
	B?	8
B1	B1	18524
B10	B10	159
B100	B100	26
B101	B101	1
B102	B102	5
B103	B103	1
B104	B104	4
B105	B105	1
B106	B106	1
B11	B11	383
B12	B12	247
B13	B13	418
B14	B14	56
B15	B15	206
B16	B16	519
B17	B17	1944
B18	B18	1091
B19	B19	23
B2	B2	458
B20	B20	1805
B21	B21	49
B22	B22	46
B23	B23	27
B24	B24	1159
B25	B25	81
B26	B26	62
B27	B27	205
B28	B28	37
B29	B29	11
B3	B3	26981
B30	B30	9260
B31	B31	17
B32	B32	6
B33	B33	16252
B34	B34	1
B35	B35	48
B36	B36	829
B37	B37	3
B38	B38	70
B39	B39	5
B4	B4	10
B40	B40	7550
B41	B41	376
B42	B42	174
B43	B43	25
B44	B44	1
B45	B45	13
B46	B46	56
B47	B47	12
B48	B48	106
B49	B49	310
B5	B5	11398
B50	B50	87
B51	B51	52
B52	B52	18
B53	B53	21
B54	B54	121
B55	B55	17
B56	B56	50
B57	B57	371
B58	B58	42
B59	B59	4
B6	B6	7157
B60	B60	13
B61	B61	22
B62	B62	72
B63	B63	67
B64	B64	4
B65	B65	2
B66	B66	3
B67	B67	16
B68	B68	3
B69	B69	5
B7	B7	3266
B70	B70	4
B71	B71	22
B72	B72	6
B73	B73	78
B74	B74	1
B75	B75	3
B76	B76	527
B77	B77	1
B78	B78	9
B79	B79	24
B8	B8	386
B80	B80	10
B81	B81	5
B82	B82	58
B83	B83	58
B84	B84	54
B85	B85	86
B86	B86	4
B87	B87	15
B88	B88	52
B89	B89	122
B9	B9	10361
B90	B90	9
B91	B91	74
B92	B92	4
B93	B93	2
B94	B94	29
B95	B95	1
B96	B96	1
B97	B97	1
B98	B98	4
B99	B99	55
Bch	Bch	1
Blf	Bell	3
Blf	Blf	3
BO1	BO1	3
	Bo13	1
BO2	BO2	1
BO3	Bo3	1
	Bone	2
	Bone1	1
	Bowl	1
Br	Br	8
Br1	Br1	2
Brc	Brc	2
BrCo1	BrCo1	1
	BrEw	1
Brh	Brh	6
Brk	Brk	1
	BrLf	1
Brn	Brn	1
BrR	BrR	1
	BrW	1
Bu1	Bu1	1
Bucl	Bucl	1
	Bx	1
Bx1	Bx1	13
Bx10	Bx10	5
Bx11	Bx11	156
Bx12	Bx12	145
Bx13	Bx13	186
Bx14	Bx14	33
Bx15	Bx15	5
Bx16	Bx16	4
Bx17	Bx17	2
Bx18	Bx18	1
Bx19	Bx19	2
Bx2	Bx2	8
Bx20	Bx20	4
Bx21	Bx21	2
Bx22	Bx22	4
Bx23	BX23	1
Bx24	Bx24	7
Bx25	Bx25	5
Bx3	Bx3	5
Bx4	Bx4	12
Bx5	Bx5	32
BX6	Bx6	12
BX7	BX7	7
BX8	Bx8	7
Bx9	Bx9	8
C1	C1	1
C2	C2	6
CB1	Cb1	1
CB10	CB10	6
CB11	CB11	4
CB12	CB12	3
CB13	CB13	4
CB14	CB14	1
CB15	Cb15	3
CB2	CB2	10
CB3	CB3	2
CB4	CB4	108
CB5	CB5	47
CB6	CB6	16
CB7	CB7	55
CB8	Cb8	2
CB9	CB9	4
	Ch1	1

Fig.2.1-33, cont. ..:

Serial Shortlist	Serials in Compiled Data	Number of Objects
ChCo	ChCo	59
	Co	1
Co1	Co1	20
Co10	Co10	3
Co11	Co11	3
Co12	Co12	5
Co13	Co13	6
Co14	Co14	4
Co15	Co15	14
Co16	Co16	6
Co17	Co17	3
Co18	Co18	4
Co19	Co19	6
Co2	Co2	2
Co20	Co20	209
Co21	Co21	4
Co22	Co22	4
Co23	Co23	99
Co24	Co24	5
Co25	Co25	48
Co26	Co26	84
Co27	Co27	22
Co28	Co28	112
Co29	Co29	3
Co3	Co3	2
Co30	Co30	5
Co31	Co31	4
Co32	Co32	2
Co33	Co33	2
Co34	Co34	4
Co35	Co35	3
Co36	Co36	2
Co37	Co37	1
Co38	CO38	1
Co39	Co39	1
Co4	Co4	4
Co40	Co40	1
Co5	Co5	2
Co6	Co6	3
Co7	Co7	6
Co8	Co8	3
Co9	Co9	7
	Col	1
Cop	Cop	2
CoPe	CoPe	141
	Copper	1
	Cover	1
Cr	Cr	1
	D	1
D1	D1	2374
D10	D10	153
D11	D11	21
D12	D12	126
D13	D13	352
D14	D14	169
D15	D15	369
D16	D16	16
D17	D17	42
D18	D18	204
D19	D19	1
D2	D2	376
D20	D20	462
D21	D21	223
D22	D22	51
D23	D23	31
	D2-3	2
D24	D24	199
D25	D25	432
	D26	33
D27	D27	90
D28	D28	53
D29	D29	1293
D3	D3	222
D30	D30	585
D31	D31	56
D32	D32	25
D33	D33	19
D34	D34	320
D35	D35	357
D36	D36	25
D37	D37	60
D38	D38	15
D39	D39	5
D4	D4	104
D40	D40	20
D41	D41	341
D42	D42	17
D43	D43	2
D44	D44	9
D45	D45	29
D46	D46	8
D47	D47	107
D48	D48	222
D49	D49	3
D5	D5	75
D50	D50	4
D51	D51	23
D52	D52	20
D53	D53	2
D54	D54	17
D55	D55	2
D56	D56	93
D57	D57	31
D58	D58	2
D59	D59	12
D6	D6	169
D60	D60	58
D61	D61	226
D62	D62	36
D63	D63	5
D64	D64	3
D65	D65	130
D66	D66	2
D67	D67	21
D68	D68	1
D69	D69	11
D7	D7	1326
D70	D70	28
D71	D71	41
D72	D72	9
D73	D73	1
D74	D74	53
D75	D75	223
D76	D76	51
D77	D77	16
D78	D78	1
D79	D79	125
D8	D8	2
D80	D80	2
D81	D81	2
D82	D82	6
D83	D83	28
D84	D84	11
D85	D85	20
D86	D86	30
D87	D87	23
D88	D88	24
D89	D89	1
D9	D9	434
D90	D90	161
D91	D91	2
D92	D92	8
D93	D93	25
D94	D94	11
D95	D95	9
D96	D96	5
D97	D97	1
D98	D98	2
	Dia	1
	Dice	1
	Die	2
	E	1
E1	E1	25
E10	E10	23
E11	E11	7
E12	E12	3
E13	E13	1
E14	E14	2
E15	E15	19
E16	E16	12
E17	E17	5
E18	E18	10
E19	E19	7
E2	E2	40
E20	E20	23
E21	E21	7
E22	E22	1
E23	E23	2
E24	E24	10
E25	E25	10
E26	E26	5
E27	E27	5
E28	E28	15
E29	E29	1
E3	E3	11
E30	E30	8
E31	E31	8

Fig.2.1-33, cont. ..:

Serial Shortlist	Serials in Compiled Data	Number of Objects
E32	E32	1
E33	E33	1
E34	E34	10
E35	E35	1
E36	E36	3
E37	E37	1
E38	E38	3
E39	E39	3
E4	E4	74
E40	E40	6
E41	E41	1
E42	E42	1
E43	E43	1
E44	E44	1
E5	E5	5
E6	E6	39
E7	E7	5
E8	E8	47
E9	E9	22
	Ecop	3
F1	F1	1
F10	F10	1
F11	F11	1
F2	F2	9
F3	F3	1
F4	F4	1
F5	F5	1
F6	F6	1
F7	F7	1
F8	F8	1
F9	F9	1
	Fg2	1
	Flute	1
	Fr	1
	G1	4
	G2	2
	G3	1
	G4	2
Ga	Ga	125
	Gco1	1
	Gh	1
Gl	Gl	26
	GlBa	1
	GlBl	1
GlBt	GlBt	73
	Glc	2
	Glcu	1
	Glf	1
	GlL	2
GlPe	GlPe	152
	Glr	3
	GlRi	1
Go	Go	141
GoCh	GoCh	2
GoSB	GOSB	1
GrSt	GrSt	8
	Gs	1
	Gs1	1
	Gs2	2

Serial Shortlist	Serials in Compiled Data	Number of Objects
	Hand	2
	Handle	3
	Hasw	1
Ho1	Ho1	1
	Horn	1
Ib1	IB1	2
Ib2	Ib2	2
Ib3	Ib3	4
Ib4	Ib4	1
	IN	1
In1	In1	2
In2	In2	10
	Ing	1
	Ingot	1
IP1	IP1	14
	Ir	3
Iv	Iv	17
	Iv1	1
	Ivory	1
J1	J1	7
J10	J10	147
J100	J100	5
J101	J101	4
J102	J102	24
J103	J103	3
J104	J104	4
J105	J105	14
J106	J106	1
J107	J107	2
J108	J108	1
J109	J109	2
J11	J11	5
J110	J110	1
J111	J111	1
J112	J112	1
J113	J113	2
J114	J114	4
J115	J115	1
J116	J116	2
J117	J117	1
J118	J118	1
J119	J119	2
J12	J12	87
J120	J120	3
J121	J121	1
J122	J122	1
J123	J123	1
J124	J124	1
J125	J125	1
J126	J126	1
J127	J127	1
J128	J128	1
J129	J129	1
J13	J13	1
J130	J130	1
J131	J131	2
J132	J132	1
J133	J133	2
J134	J134	1

Serial Shortlist	Serials in Compiled Data	Number of Objects
J135	J135	3
J136	J136	1
J137	J137	3
J138	J138	1
J139	J139	1
J14	J14	8
J140	J140	2
J141	J141	2
J142	J142	1
J15	J15	55
J16	J16	12
J17	J17	4
J18	J18	15
J19	J19	24
J2	J2	55
J20	J20	3
J21	J21	172
J22	J22	36
	J23	39
J24	J24	21
J25	J25	41
J26	J26	10
J27	J27	5
J28	J28	3
J29	J29	7
J3	J3	4780
J30	J30	24
J31	J31	5
J32	J32	7
J33	J33	9
J34	J34	5
J35	J35	9
J36	J36	13
J37	J37	30
J38	J38	1
J39	J39	25
J4	J4	209
J40	J40	9
J41	J41	10
J42	J42	7
J43	J43	15
J44	J44	10
J45	J45	2
J46	J46	12
J47	J47	11
J48	J48	1
J49	J49	2
J5	J5	72
	J50	18
J51	J51	10
J52	J52	3
J53	J53	2
J54	J54	3
J55	J55	7
J56	J56	5
J57	J57	19
J58	J58	5
J59	J59	5
J6	J6	33

Fig.2.1-33, cont. ..:

Serial Shortlist	Serials in Compiled Data	Number of Objects
J60	J60	1
J61	J61	5
J62	J62	98
J63	J63	5
J64	J64	2
J65	J65	12
J66	J66	22
J67	J67	5
J68	J68	13
J69	J69	1
J7	J7	122
J70	J70	1
J71	J71	4
J72	J72	3
J73	J73	31
J74	J74	12
J75	J75	2
J76	J76	13
J77	J77	1
J78	J78	4
J79	J79	1
J8	J8	1
J80	J80	1
J81	J81	12
J82	J82	44
J83	J83	8
J84	J84	1
J85	J85	2
J86	J86	3
J87	J87	3
J88	J88	3
J89	J89	4
J9	J9	13
J90	J90	3
J91	J91	2
J92	J92	1
J93	J93	3
J94	J94	2
J95	J95	4
J96	J96	44
J97	J97	68
J98	J98	25
J99	J99	1
Ja	Ja	8
	k?	2
	K16	1
	K23	2
	K24	1
	Ke	1
Ke1	Ke1	224
Ke10	Ke10	7
Ke11	Ke11	42
Ke12	Ke12	13
Ke13	Ke13	8
Ke14	Ke14	10
Ke15	Ke15	8
Ke16	Ke16	26
Ke17	Ke17	99
Ke18	Ke18	16
Ke19	Ke19	5
Ke2	Ke2	226
Ke20	Ke20	10
Ke21	Ke21	75
Ke22	Ke22	10
Ke23	Ke23	8
Ke24	Ke24	1
Ke25	Ke25	1
Ke27	Ke27	2
Ke28	Ke28	28
Ke29	Ke29	10
Ke3	Ke3	29
Ke30	Ke30	3
Ke31	Ke31	4
Ke32	Ke32	2
Ke33	Ke33	4
Ke34	Ke34	15
Ke35	Ke35	3
Ke36	Ke36	2
Ke37	Ke37	3
Ke38	Ke38	20
Ke39	Ke39	2
Ke4	Ke4	374
Ke40	Ke40	5
Ke41	Ke41	8
Ke42	Ke42	62
Ke43	Ke43	17
Ke44	Ke44	16
Ke45	Ke45	9
Ke46	Ke46	4
Ke47	Ke47	4
Ke48	Ke48	2
Ke49	Ke49	15
Ke5	Ke5	13
Ke50	Ke50	2
Ke51	Ke51	1
Ke52	Ke52	4
Ke53	Ke53	1
Ke54	Ke54	1
Ke55	Ke55	7
Ke56	Ke56	2
Ke57	Ke57	1
Ke6	Ke6	37
Ke7	Ke7	1
Ke8	Ke8	3
Ke9	Ke9	64
L1	L1	1941
L10	L10	58
L11	L11	3
L12	L12	24
L13	L13	5
L14	L14	52
L15	L15	8
L16	L16	65
L17	L17	11
L18	L18	28
L19	L19	8
L2	L2	363
	L20	100
	L21	11
	L22	4
	L23	3
L24	L24	1
L25	L25	1
L26	L26	5
L27	L27	1
L28	L28	1
L29	L29	3
L3	L3	1538
L30	L30	1
L31	L31	11
L32	L32	3
L33	L33	1
L34	L34	2
L35	L35	1
L36	L36	27
L37	L37	2
L38	L38	6
L39	L39	1
L4	L4	7
L40	L40	3
L41	L41	3
L42	L43	2
L43	L44	1
L44	L45	1
L45	L46	1
L46	L47	1
L47	L48	5
L48	L49	2
L49	L5	1
L5	L50	1
L50	L6	35
L6	L7	15
L7	L8	5
L9	L9	743
LeRi	LeRi	1
	M	2
	Mi	1
Mi1	Mi1	2
Mi10	Mi10	1
Mi11	Mi11	1
Mi12	Mi12	1
Mi13	Mi13	3
Mi14	Mi14	1
Mi15	Mi15	1
Mi2	Mi2	1
Mi3	MI3	1
Mi4	Mi4	1
Mi5	Mi5	5
Mi6	Mi6	1
Mi7	Mi7	2
Mi8	Mi8	1
Mi9	Mi9	1
	MM1	1
	OP	1
	OP1	1
	Orn	5
	Orne	1

Fig.2.1-33, cont. ..:

Serial Shortlist	Serials in Compiled Data	Number of Objects
P1	P1	72
P10	P10	1
P11	P11	12
P12	P12	12
P12	P13	1
P13	P14	13
P14	P15	10
P15	P16	12
P16	P17	3
P17	P18	2
P19	P19	5
P2	P2	9
P20	P20	18
P21	P21	6
P22	P22	6
P23	P23	10
P24	P24	4
P25	P25	16
P26	P26	7
P27	P27	4
P28	P28	4
P29	P29	2
P3	P3	55
P30	P30	4
P31	P31	3
P32	P32	2
P33	P33	2
P34	P34	1
P35	P35	5
P36	P36	3
P37	P37	8
P38	P38	1
P39	P39	5
P4	P4	2
P40	P40	1
P41	P41	1
P42	P42	2
P43	P43	2
P44	P44	2
P45	P45	2

Serial Shortlist	Serials in Compiled Data	Number of Objects
P5	P5	23
P6	P6	8
P7	P7	2
P8	P8	25
P9	P9	6
	PB	1
Pe	Pe	80
	Pes	2
Pes1	Pes1	5
Pes2	Pes2	1
	PG	2
PH1	Ph1	3
PH2	PH2	1
PH3	Ph3	2
PH4	Ph4	2
PH5	PH5	1
PH6	PH6	2
PH7	PH7	3
PH8	PH8	1
Pi1	Pi1	1
Qu	Qu	4
	Rh	2
Ri	Ri	1
	Ri1	1
	Ring	10
	Rings	1
	Roll	1
Ru	Ru	135
Sa	Sa	71
	Sa2	1
SC1	Sc1	25
SC2	SC2	2
SC3	SC3	26
SC4	Sc4	5
SC5	SC5	13
SC6	SC6	3
SC7	SC7	1
SC8	Sc8	5
	Sco	1
	Sh	4

Serial Shortlist	Serials in Compiled Data	Number of Objects
	Sh1	1
	Shell	5
	Silver	2
Sl1	Sl1	1
Sl2	Sl2	2
	SR	1
	SS	3
St	St	18
	ST1	2
	Sto	1
Sto1	Sto1	4
StPe	StPe	139
StRi	StRi	1
StSt	StSt	59
	Stu	1
	StUN	1
	Sword	1
	Ta1	1
	Ti	2
	Tooth	1
	TP1	1
Tri2	Tri2	3
Tri3	Tri3	1
UN	Un	166
	UNgL	1
V1	V1	2
	W1	1
	Wa	1
	WB	1
WBx	WBx	1
WCBX	WCBx	1
	Wd1	1
	Wo	1
	Ws	1
CoS		
EB1		
Tri1		
Total		155691
Unnoted in Compiled Serials		389

Fig.2.1-33: Shortlisted <loc> classification entries and <loc> codes found in compiled data.

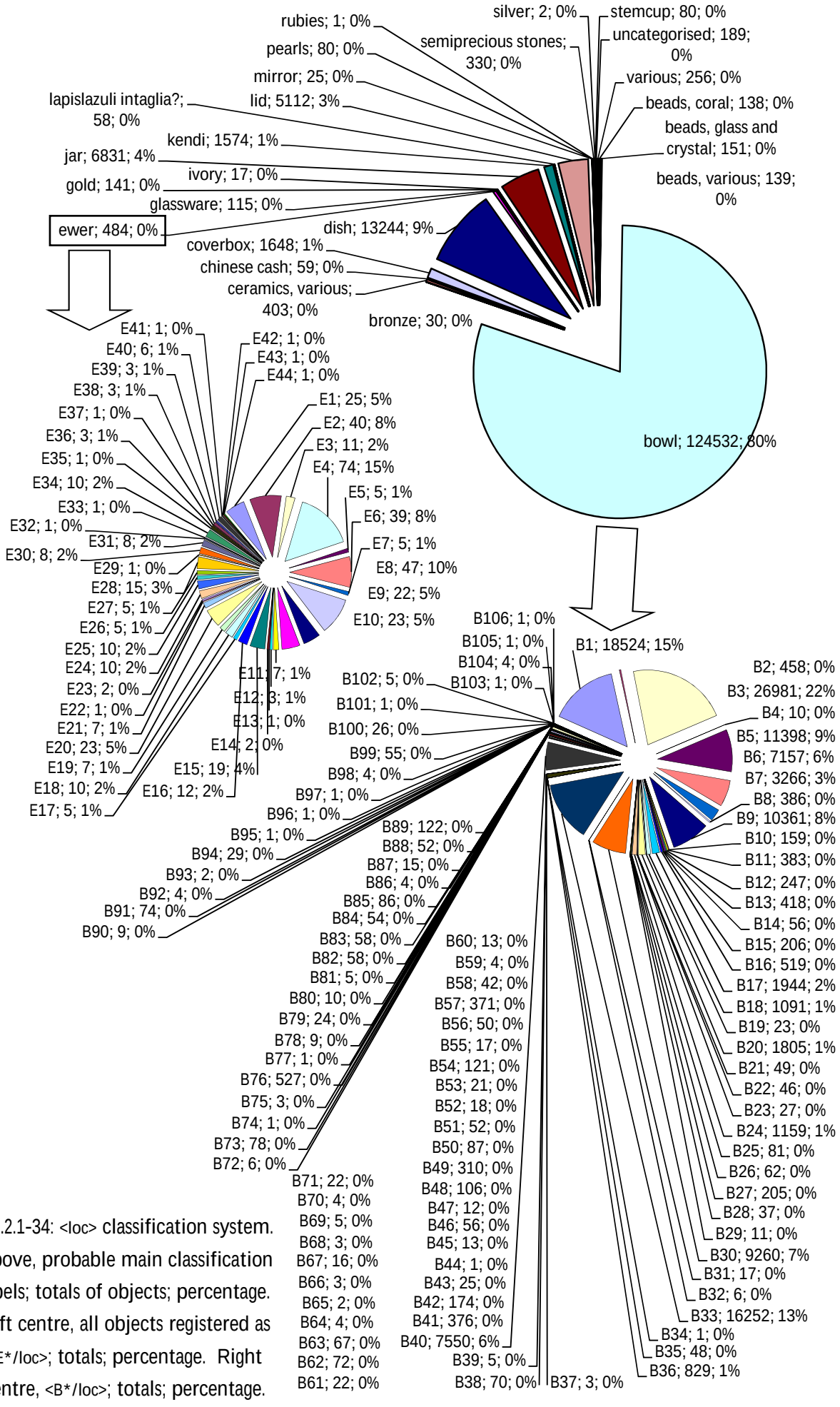


Fig.2.1-34: <loc> classification system. Above, probable main classification labels; totals of objects; percentage. Left centre, all objects registered as <E*/loc>; totals; percentage. Right centre, <B*/loc>; totals; percentage.

	∑ of categories with *n* objects ...											
Code /loc	*1*	= % of ∑ of categories	*2*	= % of ∑ of categories	*3*	= % of ∑ of categories	*4*	= % of ∑ of categories	*5*	= % of ∑ of categories	% of ∑ ≤5	*>5*	= % of ∑ of categories
<B/loc>	11	9.48	5	4.31	4	3.45	10	8.62	8	6.90	32.76	78	67.24
<BX/loc>			3	13.04			3	13.04	4	17.39	43.48	13	56.52
<CB/loc>	2	13.33	2	13.33	2	13.33	3	20.00			60.00	6	40.00
<CO/loc>	4	10.00	6	15.00	7	17.50	7	17.50	3	7.50	67.50	13	32.50
<D/loc>	6	6.06	11	11.11	2	2.02	1	1.01	3	3.03	23.23	76	76.77
<E/loc>	11	25.00	2	4.55	4	9.09			5	11.36	50.00	22	50.00
<J/loc>	37	25.87	17	11.89	14	9.79	8	5.59	11	7.69	60.84	56	39.16
<KE/loc>	7	12.50	7	12.50	4	7.14	5	8.93	2	3.57	44.64	31	55.36
<L/loc>	14	26.92	4	7.69	6	11.54	1	1.92	4	7.69	55.77	23	44.23
<P/loc>	6	13.33	10	22.22	3	6.67	4	8.89	3	6.67	57.78	19	42.22

Fig.2.1-35: Totals and percentages of categories of main tradeware groups registered at salvage locations that contain less than 6 objects / category.

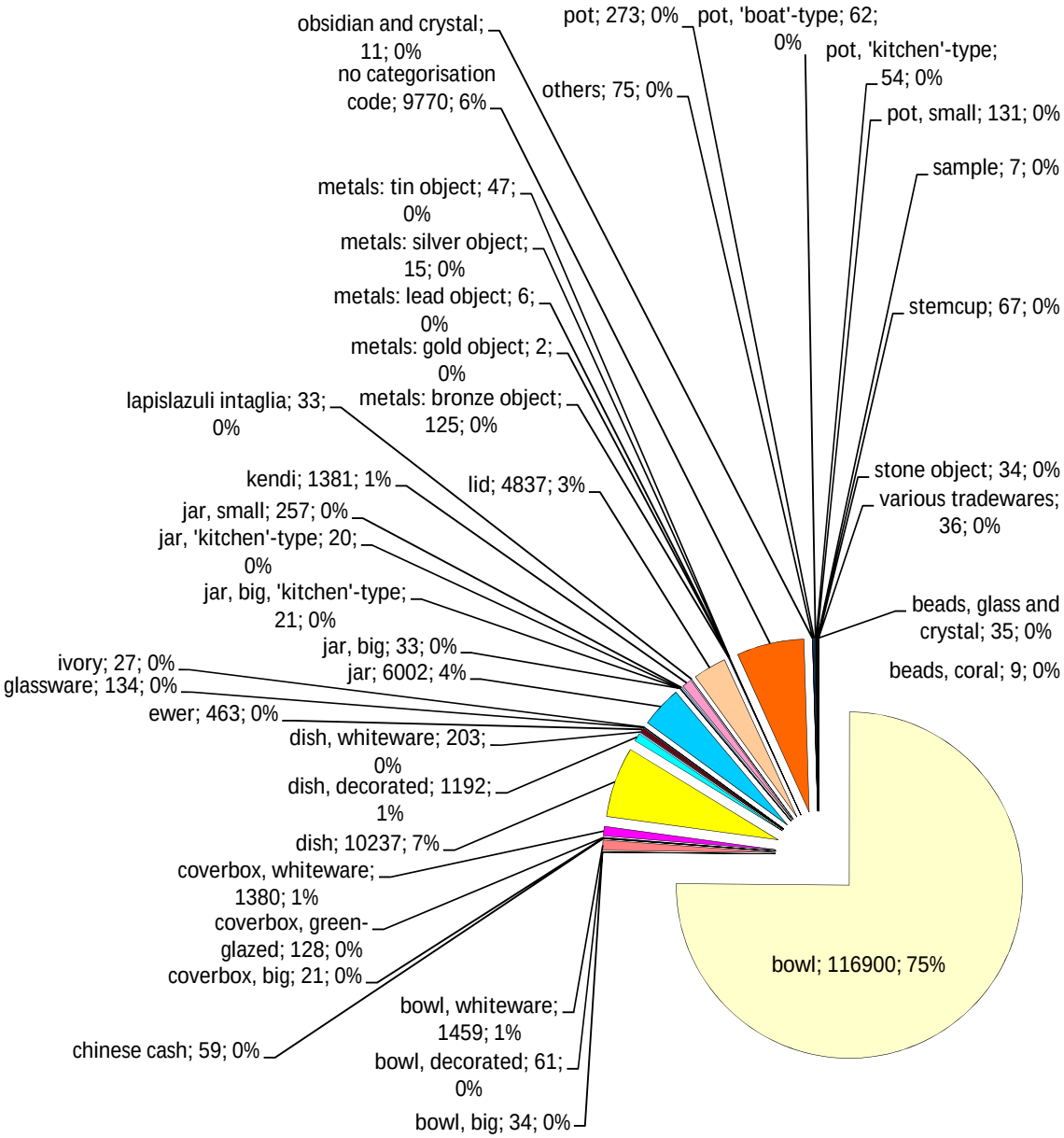


Fig.2.1-36: Overview of <wh> classification codes; code; total of objects; percentage.

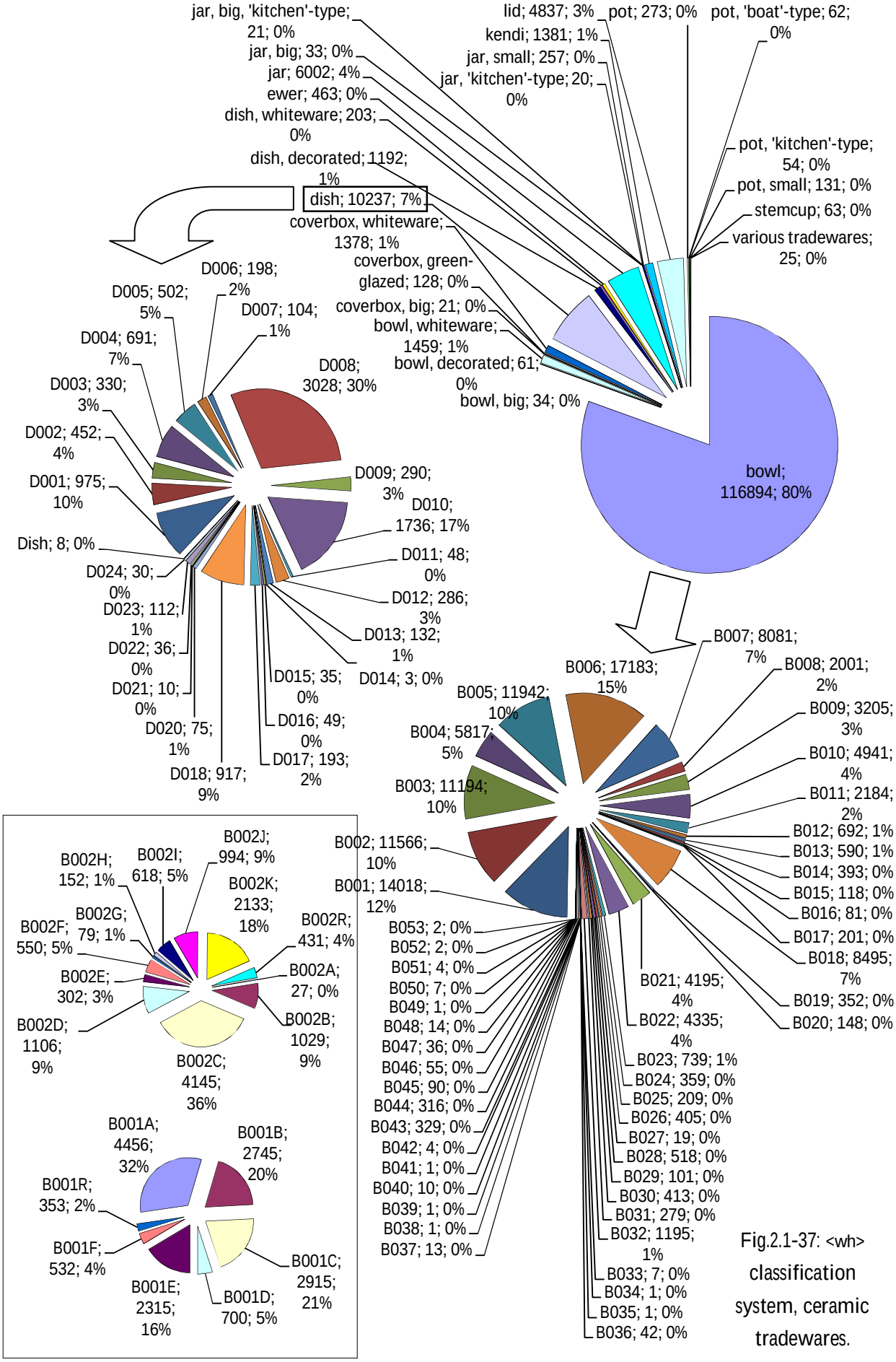
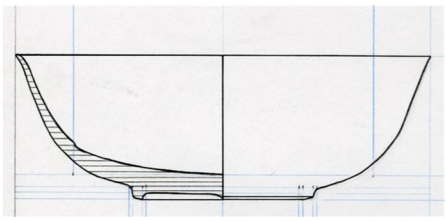


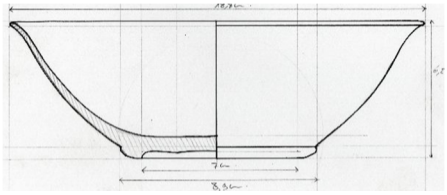
Fig.2.1-37: <wh> classification system, ceramic tradewares.

Salvage Location Code [/loc]	*Remarks*	*Warehouse Code [/wh]*	*Remarks*	*Assumed Main Category*
B##	Both green-glazed and whiteware, decorated and undecorated	B0##	Green-glazed	bowl
		Big Bowl ##	Green-glazed, white 'pre-porcelain', unglazed / red-slipped earthenware, both decorated and undecorated	bowl, big
		BD 0##	Green-glazed, various degrees of incised and molded decorations	bowl, decorated
		BL0##	White 'pre-porcelain' ["whiteware"]	bowl, whiteware
CB#, BX# Co## L##	Various types of covered boxes, covers and lids?	BCB #	Of bigger size?, boxes and covers/lids	coverbox, big
		CB Xing ##	Green-glazed, boxes and covers/lids; decorated and undecorated	coverbox, green-glazed
		CB Yue ##	Whiteware, boxes and covers/lids	coverbox, whiteware
D## [B##]	Both green-glazed and whiteware, decorated and undecorated	D0##	Green-glazed	dish
		DD0##	Green-glazed, various degrees of incised and molded decorations	dish, decorated
		DL0##	Whiteware	dish, whiteware
E##		E##	Spouted vessel with handle? Any type of glaze and material, decorated and undecorated	ewer
J##		J##[/##]	Green-glazed stoneware and unglazed / red-slipped earthenware, decorated and undecorated, including covers?	jar
		Big Jar ##	Any type of glaze and material, >26 cm tall?	jar, big
		BJK##	Earthenware, decorated and undecorated, no footrim, >20 cm tall?	jar, big, 'kitchen'-type
		Jar Kitchen #	Earthenware, undecorated and undecorated, no footrim, <23 cm tall?	jar, 'kitchen'-type
		JS/##	Both green-glazed and whiteware, decorated and undecorated	jar, small
Ke##		Ke##	Spouted vessel without handle? Green-glazed stoneware and unglazed / red-slipped earthenware, decorated and undecorated	kendi
L##, Co##		Lid ##	Single lids and covers, both green-glazed and whiteware, decorated and undecorated	lid
P##?		P##	Green-glazed stoneware, whitewares and unglazed / red-slipped earthenware, decorated and undecorated, >9.5 cm diameter?	pot
		Boat Pot ##	Stoneware?, upright shape without foot and a broad base	pot, 'boat'-type
		Pot Kitchen ##	Earthen- and stoneware, decorated and undecorated, no footrim	pot, 'kitchen'-type
--		Small Pot ##	Both green-glazed and whiteware, decorated and undecorated, <9.5 cm diameter?	pot, small
Any unlisted ceramic object, green-glazed or white stoneware, glazed and unglazed earthenware, decorated and undecorated				various tradewares
G#, Gl/GL* [e.g. GlBl, GlBt]		Short description starting with 'Glass'		glassware
Ph#	Glass 'phials'			
**Pe		Short description containing 'Beads'		beads, [material]
NN		Short description starting with material		[material (:detail)] [object/designation]
Any as yet unlisted code				others

Fig.2.1-38: Possible explanations for first level groupings in <wh> coding system.



<D013e/loc>	<D020a/loc>	<D010h/loc>	
7.5	7.2	5.9	dia. bottom
16.8	21.4	13.9	dia. top
6	6.5	4.1	height
2.8	**3.29**	**3.39**	ratio
3.23	**2.92**	**3.35**	ratio
3.5	7.1	5.5	height
11.3	20.7	18.4	dia. top
5.2	11.9	9.1	dia. bottom
<B038/loc>	<B050/loc>	<B004b/loc>	



	dia. bottom	dia. top	height	ratio dia. top / height		height	dia. top	dia. bottom	
B031C	6.3	15.5	5	**3.1**	**2.91**	6.8	19.8	7.6	D020D
B035	5.5	11.5	3.7	**3.11**	**3.09**	4.6	14.2	4.9	D014A
B032H	6.6	14	4.5	**3.11**	**3.19**	5.2	16.6	7.6	D003C
B005F	9.8	19	6.1	**3.11**	**3.21**	5.2	16.7	7.9	D012A
B005D	9	18.7	6	**3.12**	**3.22**	5.1	16.4	7.4	D012B
B005C	9.3	19.4	6.2	**3.13**	**3.22**	4.6	14.8	7.7	D012C
B039	4.9	11.4	3.6	**3.17**	**3.22**	6.3	20.3	8	D020C
B030B	6.4	16.2	5.1	**3.18**	**3.23**	5.2	16.8	10.9	D009A
B036B	5.6	13.8	4.3	**3.21**	**3.24**	4.2	13.6	6.5	D010C
B005H	9.8	19.4	6	**3.23**	**3.28**	4.7	15.4	6.8	D013A
B020D	7.2	16.2	5	**3.24**	**3.34**	5	16.7	8.1	D004A
B031B	6.3	16.3	5	**3.26**	**3.34**	4.7	15.7	6.6	D022C
B005I	10.1	19	5.7	**3.33**	**3.35**	6.2	20.8	7.7	D018F
B041	5.5	11.1	3.3	**3.36**	**3.36**	3.9	13.1	8.9	D001D
B004C	8.5	18.2	5.4	**3.37**	**3.38**	4.2	14.2	6.4	D012D
B036A	5.4	12.2	3.6	**3.39**	**3.39**	4.1	13.9	7.6	D010G
B005L	8.9	19	5.6	**3.39**	**3.42**	5	17.1	9.8	D009B
B005J	9	19	5.4	**3.52**	**3.43**	3	10.3	7.2	D001F
B005K	8.5	18.6	5.2	**3.58**	**3.43**	4.6	15.8	7.3	D013D
B004E	8.6	18	5	**3.60**	**3.44**	4.8	16.5	7.2	D002C

Fig.2.1-39: <wh>, ambiguous classifications, dishes and bowls. Higher ratios show a more dish-like shape. Measurements in cm.

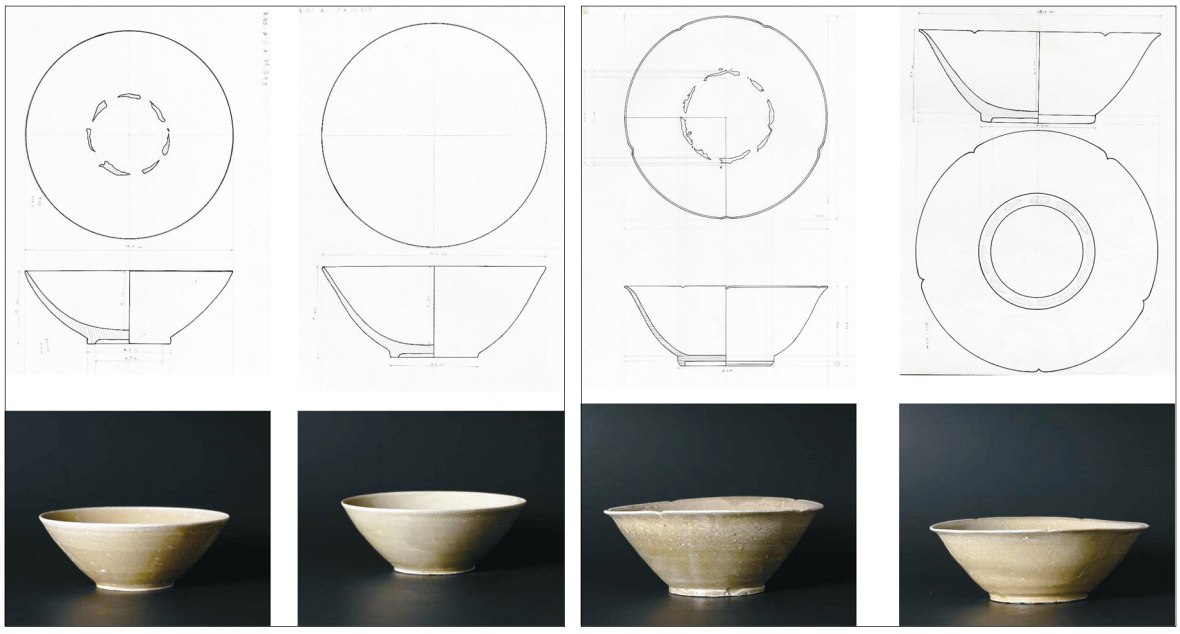
	dia. bottom	dia. top	dia. middle	height		dia. bottom	dia. top	dia. middle	height
Small Pot 19	3.8	2.5	6.9	5.6	JS/007	3.4	2.9	6.7	5.5

	dia. bottom	dia. top	dia. middle	height		dia. bottom	dia. top	dia. middle	height
Small Pot 17	3.8	3.3	6.7	5.6	JS/008	3.7	3	7	5.7

	dia. bottom	dia. top	dia. middle	height		dia. bottom	dia. top	dia. middle	height
Small Pot 3	2.3	2.4	4.6	3.2	JS/047	4.2	3.1	7.8	6.4

Fig.2.1-40: Examples of <wh>-categories 'pot, small' and 'jar, small'. Measurements in cm.

<B004/wh> (5,816pcs), <B005/wh> (11,942pcs)



<B010/wh> (4.941pcs), <B011/wh> (2.184pcs), <B021/wh> (4,195pcs), <B022/wh> (4,335pcs)

Fig.2.1-41: Example photographs and drawings of <B0##/wh> waregroups with high degree of similarities in shape; cont. … .

<B001/wh> (14,016pcs), <B002/wh> (11,566pcs)

<B003/wh> (11,194pcs), <B006/wh> (17,183pcs)

Fig.2.1-41, cont.: Example photographs and drawings of <B0##/wh> waregroups with high degree of similarities in shape.

Measurement	diameter below		diameter top		height	
Code Group	B004	B005	B004	B005	B004	B005
A	9	10	18.8	19.7	6.2	7
B	9.1	8.7	18.4	18.1	5.5	6.1
C	8.5	9.3	18.2	19.4	5.4	6.2
D	9	9	18.7	18.7	4.5	6
E	8.6	8.2	18	17	5	5.5
F		9.8		19	5.32	6.1
G		9.1		18.8		6.2
H		9.8		19.4		6
I		10.1		19		5.7
J		9		19		5.4
K		8.5		18.6		5.2
L		8.9		19		5.6
M		8.5		19		6.3
N	7	9		18.8	5	7.1
Variance of Measurements between Sub-Groups	**1.6**	**1.6**	**0.8**	**2.7**	**1.7**	**1.9**
Average	**8.84**	**9.14**	**18.42**	**18.82**	**5.32**	**6.03**
Variance in between Groups	**0.3**		**0.4**		**0.71**	

Code Group	B010	B011	B010	B011	B010	B011
A	6	6.2	14.2	14.3	5	4.9
B	6.8	6.8	15	16	6	6
C	5.5	6.7	11.7	17.2	3.9	7
D	7.2	6.1	14.2	15.3	5.2	5.5
E	5.5	5.8	12.9	14	5.2	5
F	5.4		12.7		5.6	
G	7		14.2		5	
Variance of Measurements between Sub-Groups	**1.6**	**1**	**2.5**	**3.2**	**2.1**	**2.1**
Average	**6.2**	**6.32**	**13.56**	**15.36**	**5.13**	**5.68**
Variance in between Groups	**0.12**		**1.8**		**0.55**	

Code Group	B021	B022	B021	B022	B021	B022
A	9.2	8.8	21.3	19.5	8.1	7.5
B	9.2	9	20.8	20	8.8	7.6
C	9.6	9.4	20.7	20	8	8
D	10	9.5	21.4	20.2	8.3	7.7
E	9.9		21.2		8.1	
Variance of Measurements between Sub-Groups	**0.8**	**0.7**	**0.7**	**0.7**	**0.8**	**0.5**
Average	**9.58**	**9.18**	**21.08**	**19.93**	**8.26**	**7.7**
Variance in between Groups	**0.12**		**1.8**		**0.55**	

	diameter below				diameter top					height		
Code Group	B001	B002	B003	B006	B001	B002	B003	B006	B001	B002	B003	B006
A	7	6.2	6	7.3	16.5	19	16.9	17.2	8.8	9.3	6.9	6.3
B	6.5	6.3	6.1	7.2	16.5	17.4	16.5	16.9	7	8.3	7.4	6.4
C	6.3	6.5	6.3	7	16.3	18.2	17	16.6	7	8.6	8.3	6.1
D	6	6.1	7	8.2	15.2	17.2	17.6	16	6.8	8	8.3	6.2
E	6	5.6	8.2	6.2	16	16	16.4	16.3	7.6	9	6.5	5.8
F	6.5	6.4	6.2	6.6	17	16.6	16.3	15.9	6.8	8	7.2	6
G		6	6.7			16.2	17			6.8	7.3	
H		5.9	6.2			16.2	16.6			7.1	7.7	
I		5.7				16.8				8.3		
J		6.8				17.6				8.7		
K		6.2				17				8.1		
Var.1	**1**	**1.2**	**1.2**	**2**	**1.8**	**3**	**1.3**	**1.3**	**2**	**2.3**	**1.8**	**0.6**
Average	**6.38**	**5.74**	**6.58**	**7.08**	**16.25**	**15.93**	**16.79**	**16.48**	**7.33**	**7.71**	**7.45**	**6.13**
Var.2	**1.34**				**0.86**				**1.58**			

Fig.2.1-42: Variances between measurements of waregroups in Fig.2.1-42; measurements in cm.

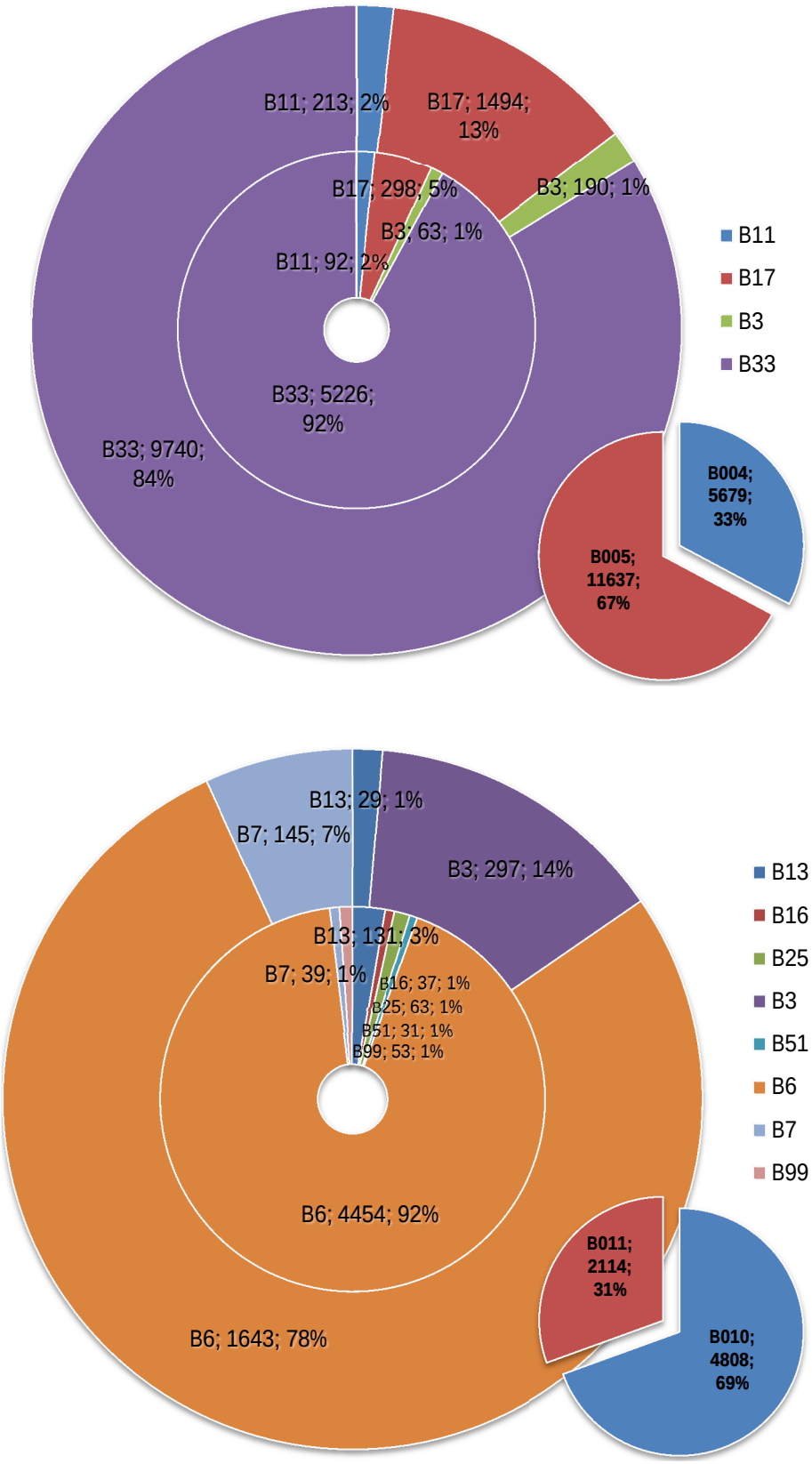


Fig.2.1-43: Comparing the presumably similar <wh> waregroups of Figs.2.1-42 and -43 to <loc> notations of <B*>. Above, from inside out: <B004/wh>, <B005/wh>; below: <B010/wh>, <B011/wh>. <loc> groupings with counts of <1% omitted. Cont. …

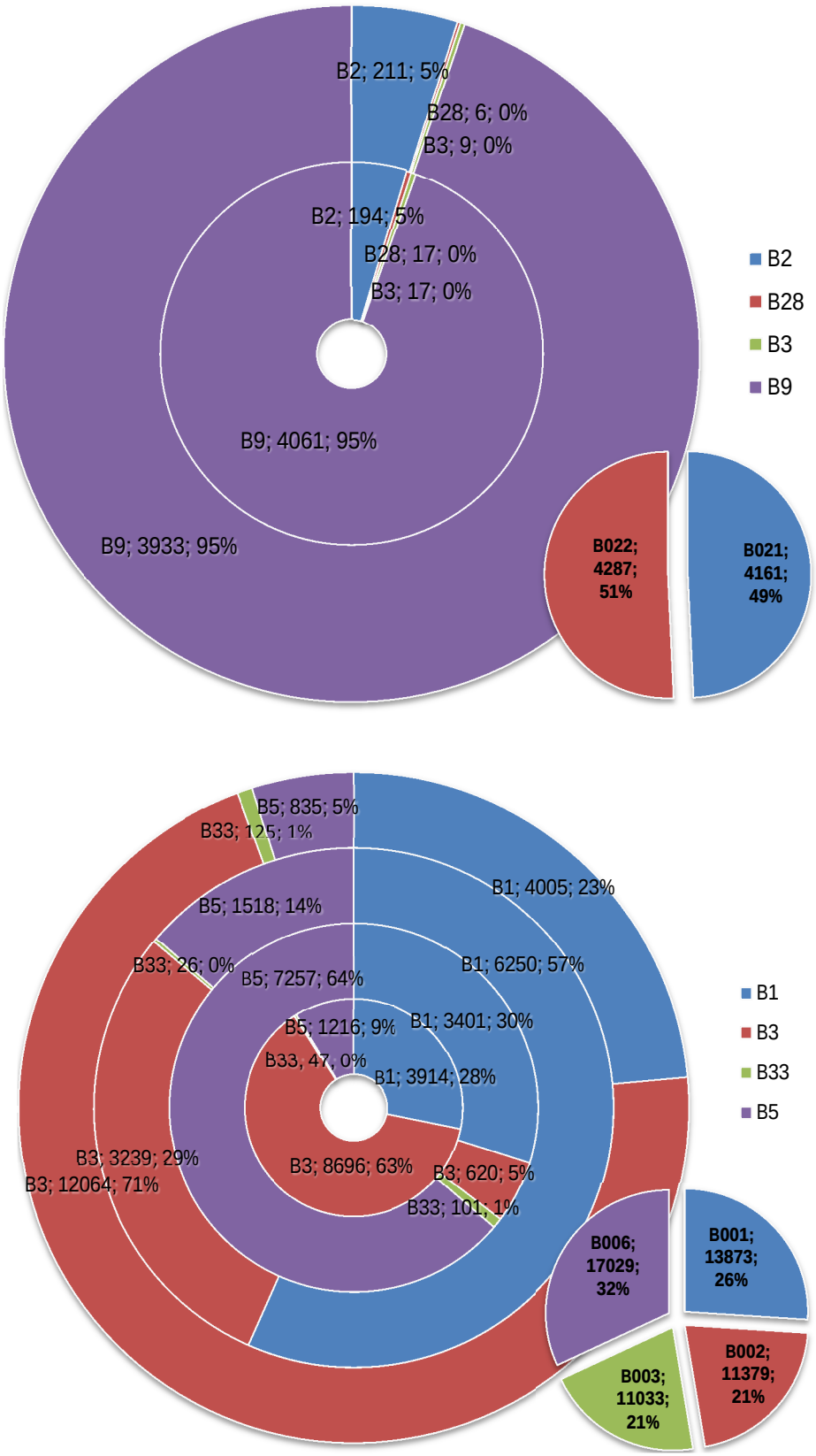


Fig.2.1-43, cont.: Comparing the presumably similar <wh> waregroups of Figs.2.1-42 and -43 to <loc> notations of <B*>. Above, from inside out: <B021/wh>, <B022/wh>; below: <B001/wh>, <B002/wh>, <B003/wh>, <B006/wh>. <loc> groupings with counts of <1% omitted.

2.2 Tradeware Ceramics

Photo courtesy Jean Paul Blancan and Luc Heymans

	<loc> entries for 'Material'	*Weight [t]*	*<wh> categorisation entries for ceramics*	*Weight [t]*
Objects registered individually	154010	53.90	145367	50.88
"Restorables"	76987	26.95	76987	26.95
Shards	262999	92.05	262999	92.05
∑	493996	172.90	485353	169.87
+10% unretrieved objects	**543395**	190.19	**533888**	186.86
+Looted objects, lowest number	**553395**	193.69	**543888**	190.36
+20% unretrieved objects	**592794**	207.48	**582423**	203.85
+Looted objects, highest number	**612794**	214.48	**602423**	210.86

Fig.2.2-1: Estimates of overall numbers and weight of ceramic cargo.

Fig.2.2-2: 'Average-sized' bowl used as reference for weight of ceramic cargo.

Fig.2.2-3: Major divisions of ceramic cargo. Above: red-slipped and unglazed earthenware; above centre: whiteware; below centre and below: green-glazed stoneware.

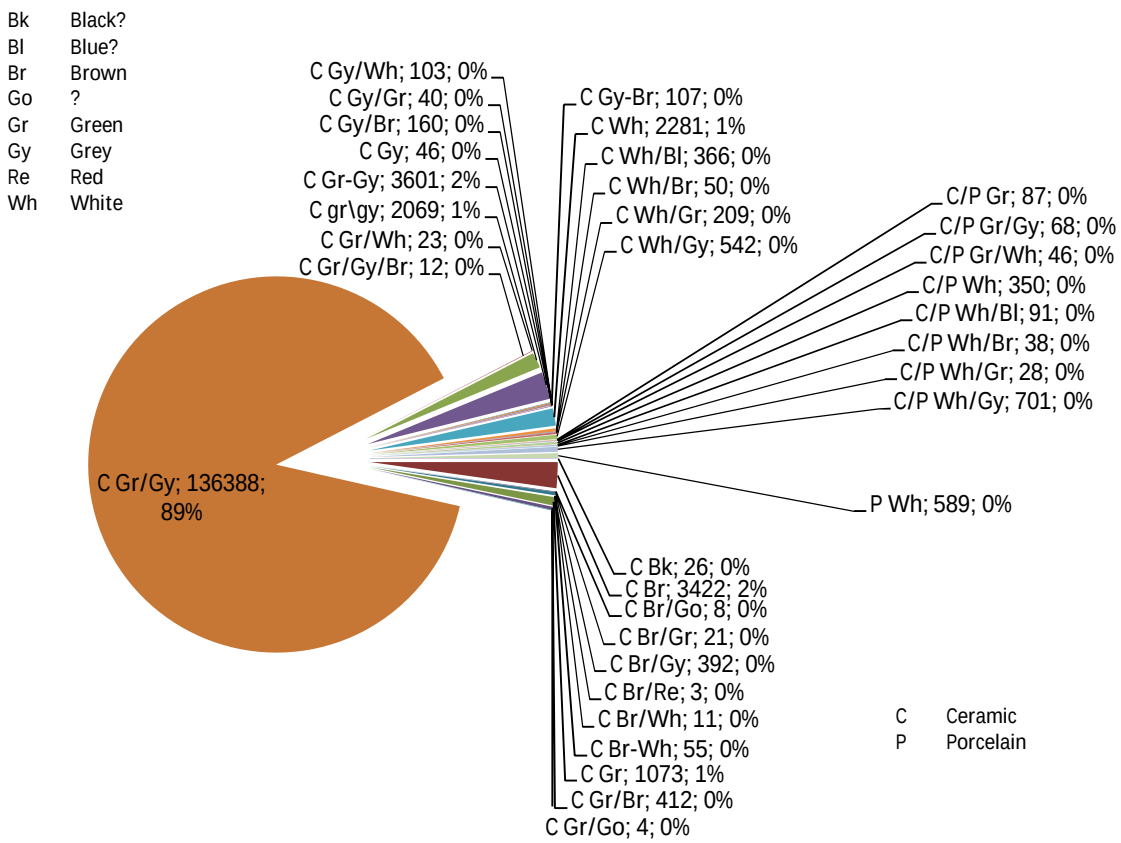


Fig.2.2-4: Combinations of entries for 'Material' and 'Colour' in <loc> classifications of ceramics [Material Colour; amount of items; percentage]. Obvious typing mistakes omitted.

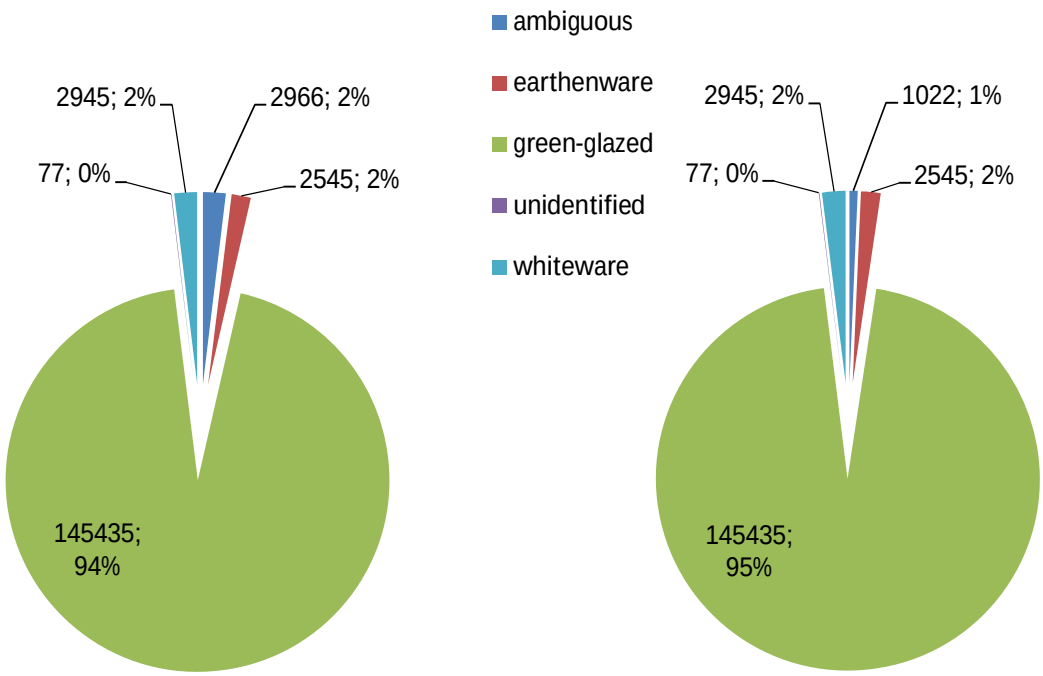


Fig.2.2-5: Attempt at an overall classification of basic types of ceramics based on <loc> records. Left: all records for ceramic objects; right: minus <B17/loc>.

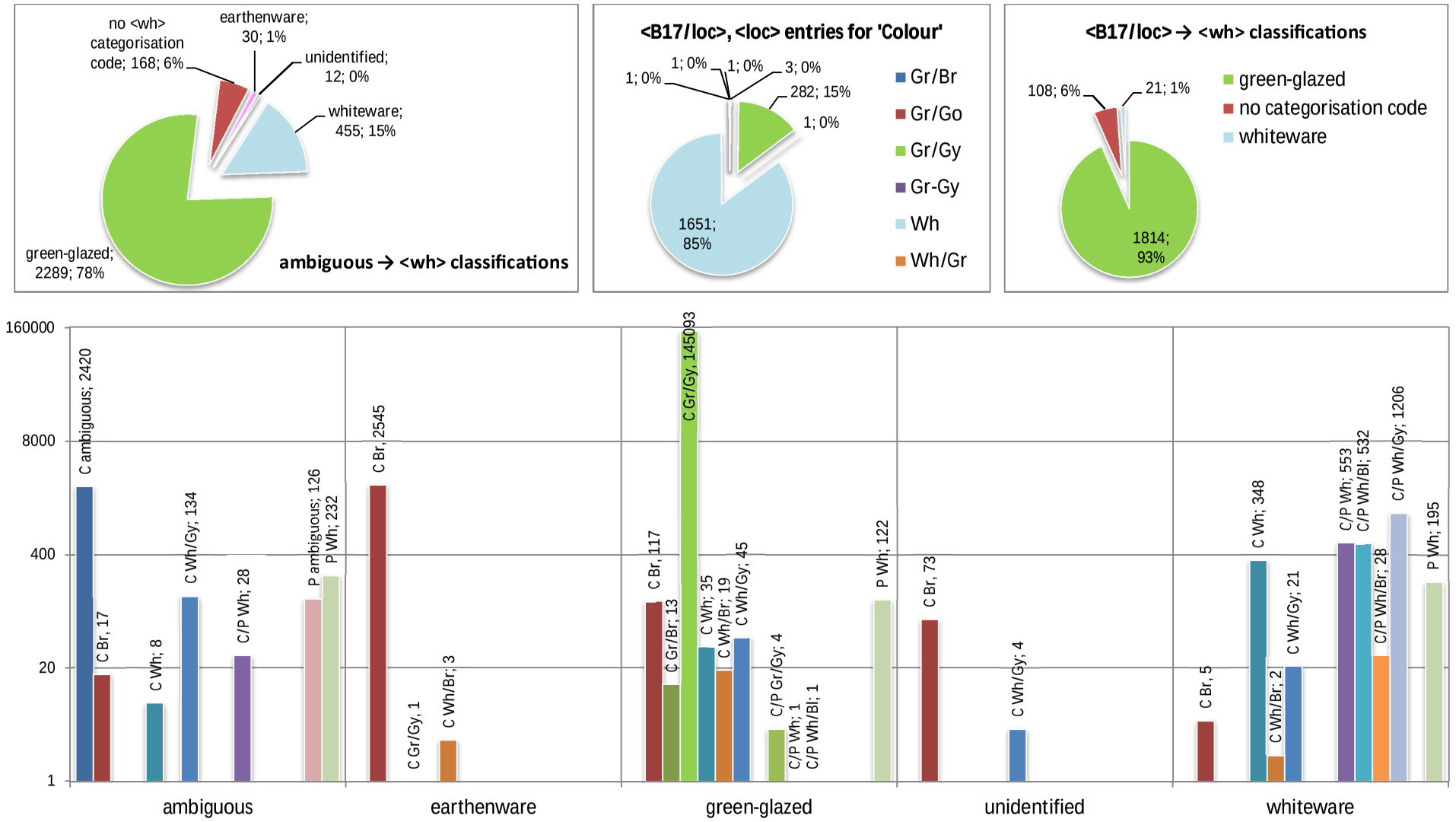


Fig.2.2-6: Breakdown of corrected <loc> entries for 'Material' and 'Colour' into proposed general classification of ceramics, logarithmic Y-scale (below); crosscheck of classification 'ambiguous' and example code group <B17/loc> (above). A legend for <loc> 'Colour' and 'Material' codes is found in Fig.2.2-4.

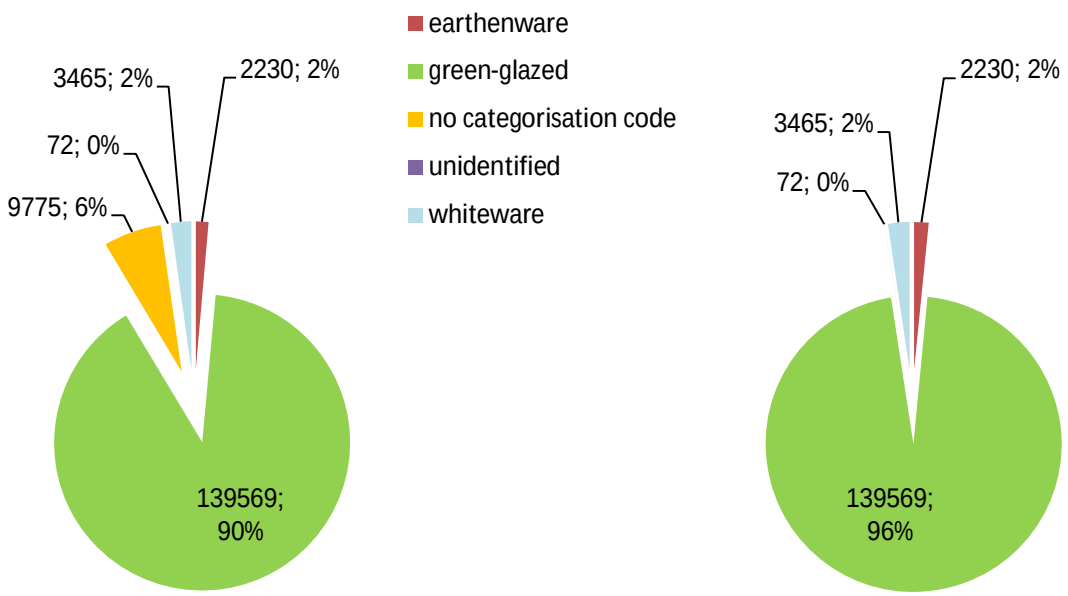


Fig.2.2-7: Overall classification of basic types of ceramics based on <wh> records. Left: all records for ceramic objects; right: minus items without <wh> code entry.

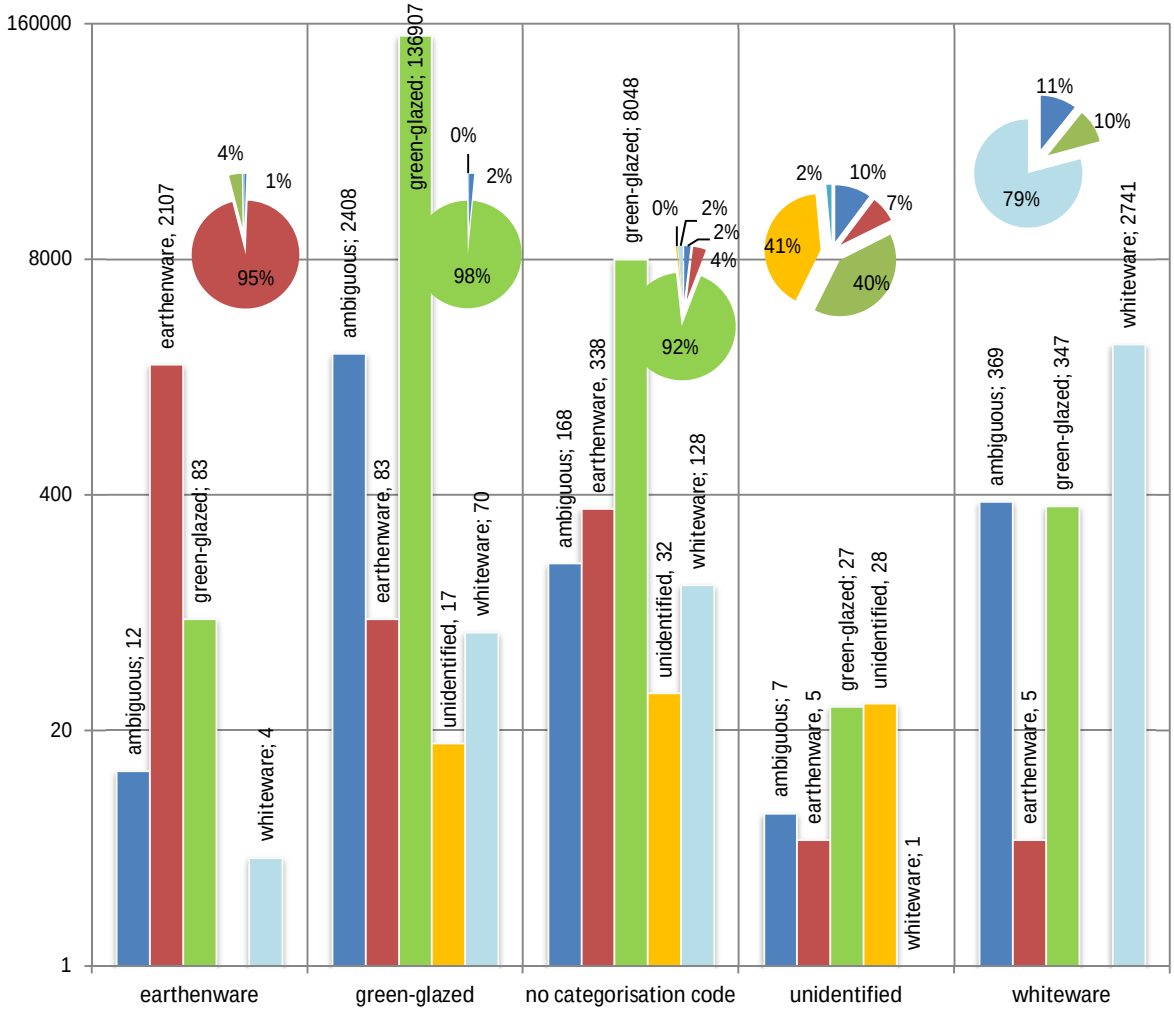


Fig.2.2-8: <wh> classifications of ceramics, broken down to <loc> classifications. Logarithmic y scale.

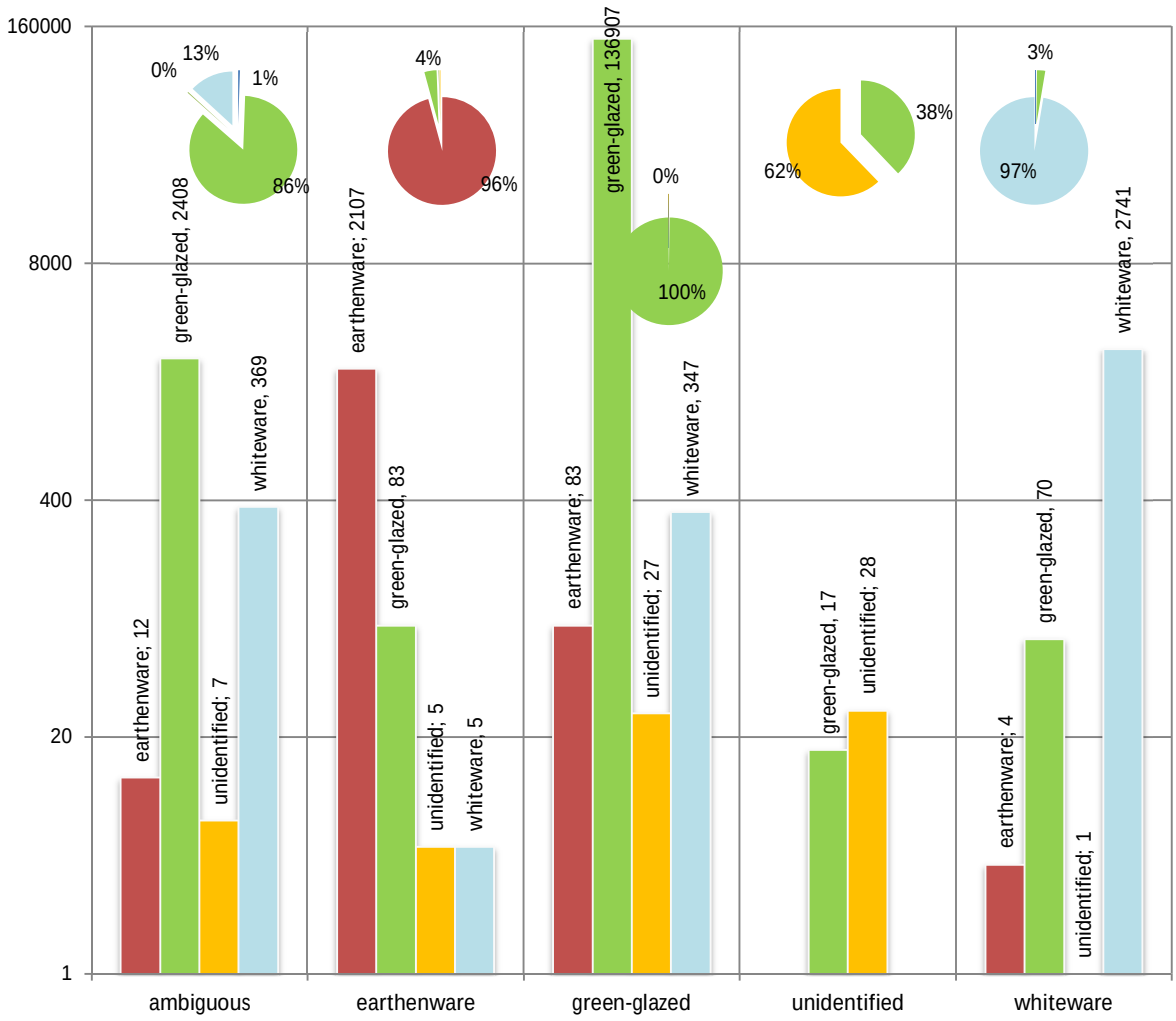


Fig.2.2-9: <loc> classifications of ceramics to <wh>; objects without <wh> categorisation code omitted.

Categorisation Label	*Code*	*Definition*	*Example*	*<wh> codes*	*<loc> codes*
closed	CL0#	vessel with one opening; opening is smaller than the vessel's largest diameter; with or without lid and/or handles/clasps		J##[/##] Big Jar ## JS/## P## Pot Kitchen ## Small Pot ##	J## P##?

Fig.2.2-10: Basic categories of ceramics used in text; cont. ...

Categorisation Label	*Code*	*Definition*	*Example*	*<wh> codes*	*<loc> codes*
closed	CL0#	vessel with one opening; opening is smaller than the vessel's largest diameter; with or without lid and/or handles/clasps			
closed, necked	CLN0#	closed vessel with a pronounced neck and a(n often less pronounced) shoulder		J3/075, 076 J5/## JS038-45, 48-53, 55, 59, 60 BJK## Jar Kitchen # V##	J## P##?

Fig.2.2-10: Basic categories of ceramics used in text; cont. ...

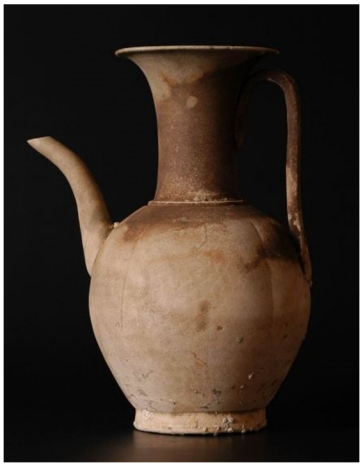
Categorisation Label	*Code*	*Definition*	*Example*	*<wh> codes*	*<loc> codes*
cover	CV0#	closing device that fits onto a rim around the opening of a vessel		BCB # CB Xing ## CB Yue ## Lid ##	CB#, BX# Co## L##
coverbox	CVB0#	vessel with a fitting cover			
ewer	EW0#	a vessel with two openings, one formed into a spout, and (a) handle(s)	 	E##	E##

Fig.2.2-10: Basic categories of ceramics used in text; cont. ...

Categorisation Label	*Code*	*Definition*	*Example*	*<wh> codes*	*<loc> codes*
kendi	KEN0#	a spouted vessel without a handle		Ke##	Ke##
lid	LI0#	closing device that fits into the opening of a vessel		Lid ##	L##, Co##
open	OP0#	vessel with one opening; opening is of the same size as or larger than the vessel's largest diameter		B0## Big Bowl ## BD 0## BL0## D0## DD0## DL0## P024-29	B### D###

Fig.2.2-10: Basic categories of ceramics used in text; cont. ...

Categorisation Label	*Code*	*Definition*	*Example*	*<wh> codes*	*<loc> codes*
open	OP0#	vessel with one opening; opening is of the same size as or larger than the vessel's largest diameter			
stemcup	STC0#	open vessel with a pronounced foot		Calyx # SC##	SC##

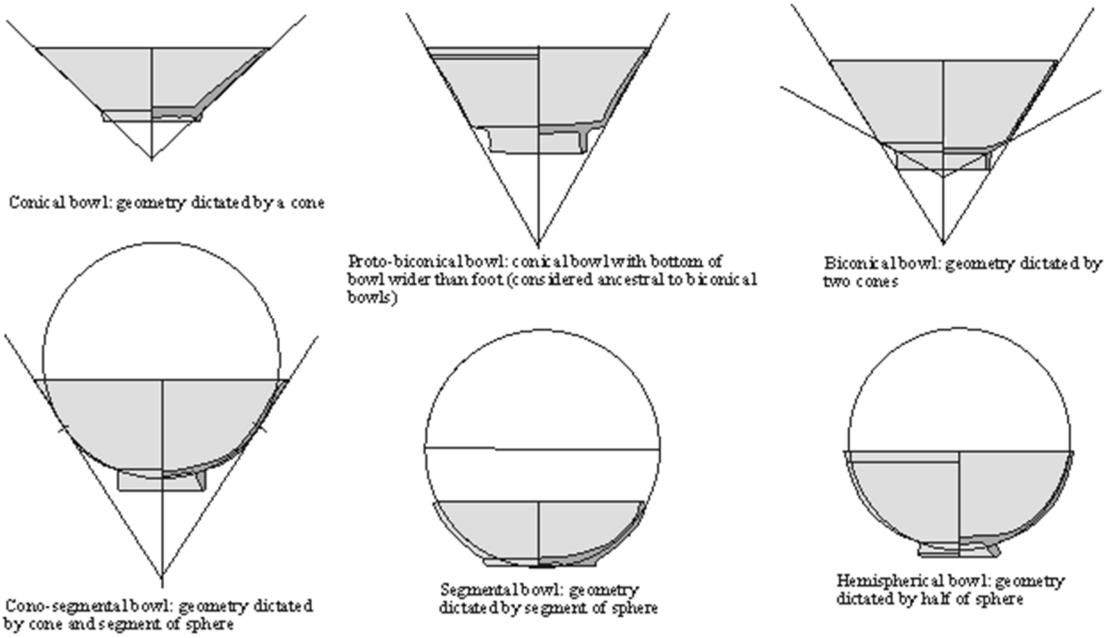


Fig.2.2-10, cont.: Basic categories and profiles (below; Mason 2004: fig.2.2) of ceramics used in text.

Fig.2.2-11: Variation of spur-marks on comparable types of green-glazed bowls and dishes.

Fig.2.2-12: Mark 大 under, per row from above left to below right, incised “open” vessels; plain and petaled bowls; two shallow plain bowls and a coverbox; an incense burner, hexagonal cup <C2/loc> and –possibly– ewer <E33/wh>.

Fig.2.2-13: Mark 上 under hexagonal ewer Art.30442 and a shallow bowl (above); two types of lotus bowls (below).

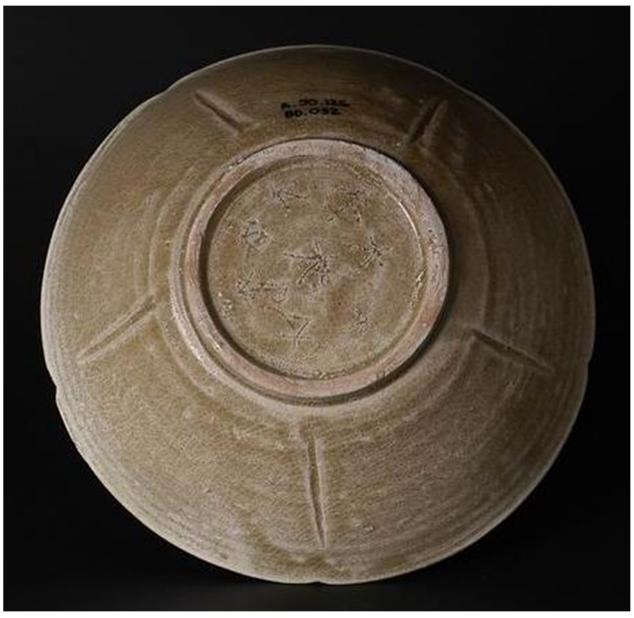


Fig.2.2-14: Art.90126, <BD032/wh>, cont. …

categorisation code [<wh> not noted]	height	dia bottom	dia top
B019E	7.2	7.6	17.4
B019F	6.9	7.5	17.6
B30/loc	6.5	7.5	16.5
B30/loc	7	7.5	16.5
B019C	6.2	7.5	16.5
BD 032	6.4	7.5	16.4
B018H	6.9	7.3	16.6
B047D	7.5	7.2	17
B047B	6.3	7.2	16.6
B018F	5.9	7.2	16
B30/loc	6.3	7	17
B019A	6.5	7	17
B30/loc	6	7	16.5
B30/loc	7	7	16.5
B018B	6.7	7	16.5
B019B	6.1	7	16.4
B30/loc	6	6.9	16.2
B019D	6.1	6.8	16.5
B018G	7	6.8	16.2

categorisation code [<wh> not noted]	height	dia bottom	dia top
B30/loc	6.3	6.8	16
B30/loc	6.5	6.8	16
B047A	6.5	6.8	16
B047C	6.1	6.7	16.7
B018A	6.1	6.7	16.2
BD 052	6.3	6.7	16.1
B018I	5.6	6.6	16.4
B30/loc	6.3	6.6	16
B30/loc	6	6.5	16.5
B30/loc	6.2	6.5	16.5
B30/loc	6.3	6.5	16.5
B018C	6.3	6.5	15.8
B30/loc	6.3	6.3	16.5
B30/loc	6.3	6.3	16
B30/loc	7	6.3	16
B018E	5.5	6.3	15.4
B30/loc	5.1	6.3	14
B018D	5.5	5.8	14.2
B018J	5.8	5.6	15.2

Fig.2.2-14, cont.: Art.90126, <BD032/wh> (marked in yellow), and measurements [here and in the following lists, cm] of all possibly comparable waregroups.

<wh> code	height	dia bottom	dia top
BD 025	8.4	9.8	24.2
BD 023	7.4	9.3	20.1

BD 022	6.9	9.1	19.7
B052	6.6	9.1	19.4
BD 024	7.7	9	19.6

Fig.2.2-15: Measurements for <BD022-25/wh> and <B052/wh>; vessel displaying 大 marked in yellow.

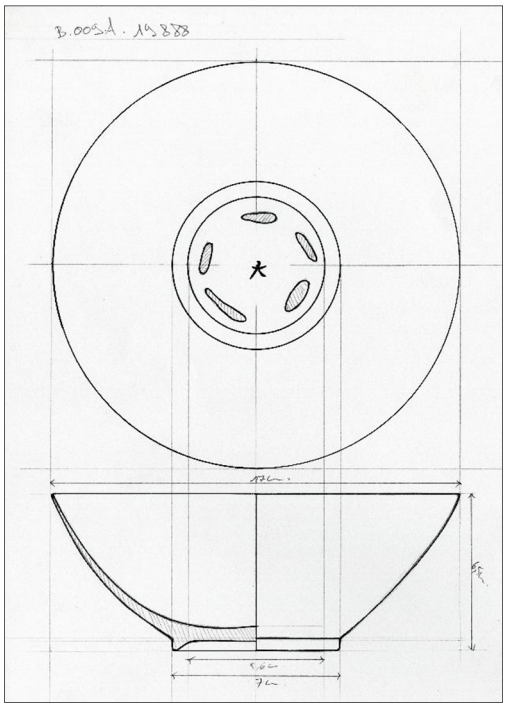
categorisation code [<wh> not noted]	height	dia bottom	dia top
B008G	6.9	8.6	16.8
B24/loc	7.5	8.5	15.5
B008H	6.9	8.4	17
B008F	6.2	8.1	16.2
B24/loc	7	8	18.5
B008E	7	8	16.8
B24/loc	7.5	8	16.5
B008I	6.8	8	16.4
B24/loc	7	8	16
B24/loc	7	8	15.5
B24/loc	7.5	8	15.5
B008A	7.2	8	15.4
B24/loc	7	8	15
B24/loc	7.5	8	7
B008B	7	7.6	16.3
B24/loc	7	7.5	16.5
B008C	6.5	7.5	16.1
B008D	6.8	7.3	15.2
B24/loc	5	6	14.5
B24/loc	5	5.5	13.7

categorisation code [<wh> not noted]	height	dia bottom	dia top
D017A	3.7	7.7	14.7
D15/loc	4	7.6	1.4
D15/loc	5	7.5	16
D15/loc	4	7.5	15
D15/loc	4	7.5	14
D15/loc	4	7	14.5
D15/loc	4	7	14
D15/loc	4	6.8	14
D017B	3.5	6.5	15.8
D15/loc	4	6.5	14
D15/loc	4	6.4	14.5
D15/loc	4.2	6.4	14.5
D15/loc	4.5	6.4	14.5
D15/loc	3.6	6.4	14
D15/loc	4	6.4	14
D15/loc	4.5	6.4	14
D15/loc	4	6.4	14
D15/loc	4	6.4	13.5
D15/loc	4	6.3	13.2
D15/loc	3.5	6	13.5
D15/loc	4	6	13.5

Fig.2.2-16: Measurements for <B008f/wh> (left) and <D018a/wh> (right) and comparable waregroups; example photographs displaying 大 (see Fig.2.2-12) marked yellow.

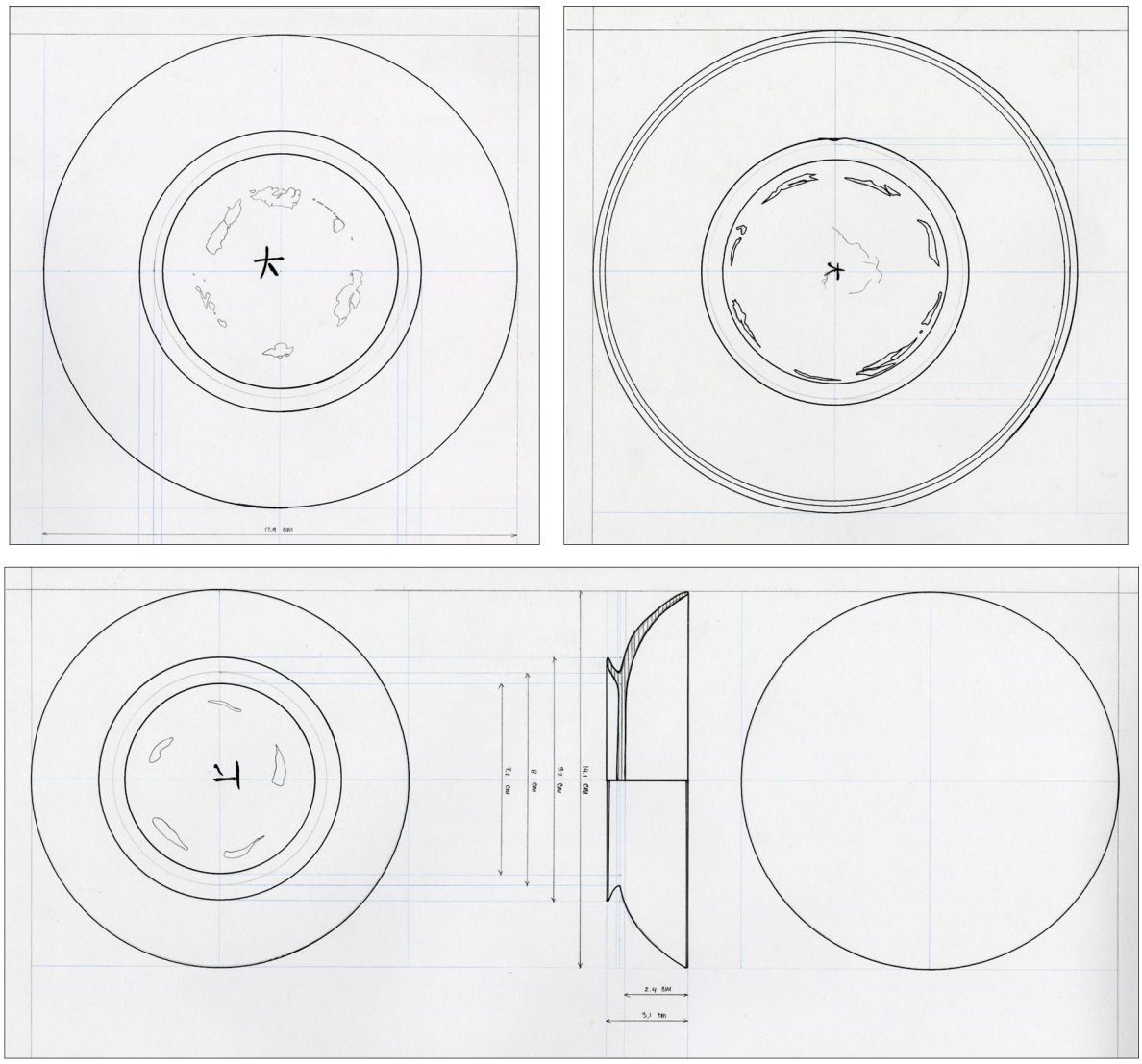
categorisation code [<wh> not noted]	height	dia bottom	dia top
B41/loc	8	8.2	16.2
B045C	7.9	8.1	15.2
B045D	7.2	8	15.4
B045A	7.3	8	14.8
B49/loc	8	7.7	15.5
B78/loc	6.5	7.5	14.2
B045B	7.6	7.2	15.2

Fig.2.2-17: Measurements for <B045d/wh> and comparable waregroups.



categorisation code [<wh> not noted]	height	dia bottom	dia top
B6/loc	4.5	7.1	14.1
B009A	6.5	7	17
B6/loc	6	6.9	16.2
B20/loc	5.8	6.8	16.5
B7/loc	6.5	6.6	16
B7/loc	5.5	6.6	15.5
B7/loc	5.5	6.6	15.2
B7/loc	6	6.6	15.2
B7/loc	5	6.6	15
B7/loc	5.6	6.6	15
B6/loc	5.5	6.6	15
B7/loc	7	6.6	14.5
B009F	7.1	6.5	17.3
B20/loc	5.2	6.5	16.5
B20/loc	5.2	6.5	16.4
B20/loc	5.2	6.5	16
B009B	5.5	6.5	15.4
B7/loc	5.8	6.5	15
B009C	6	6.4	15
B20/loc	5.2	6.3	16.5
B6/loc	5.1	6.3	16
B6/loc	5	6.3	14.5
B6/loc	5.1	6.3	14.5
B6/loc	5	6.3	14
B6/loc	5.1	6.3	14
B6/loc	5.5	6.3	14
B6/loc	6	6.3	14
B6/loc	5.1	6.3	13.8
B009D	5.2	6.2	15.6
B009G	5.1	6	13.2
B6/loc	5	5.8	13.8
B009E	5	5.6	13.6

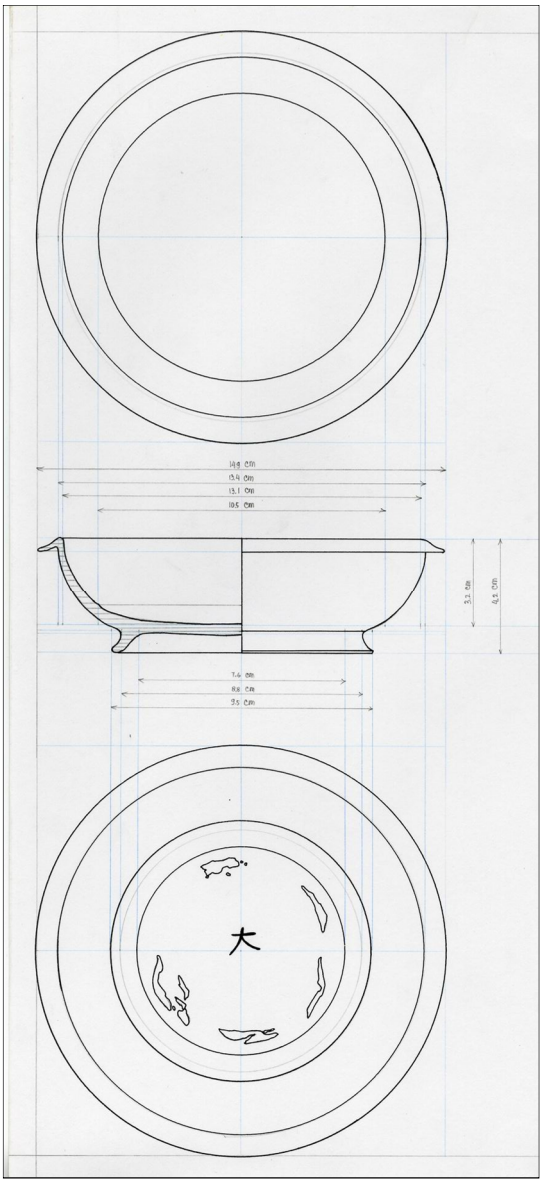
Fig.2.2-18: Measurements for <B009*/wh> and comparable waregroups; codegroup with example object carrying 大 marked yellow; group with example photograph displaying 上, light blue.

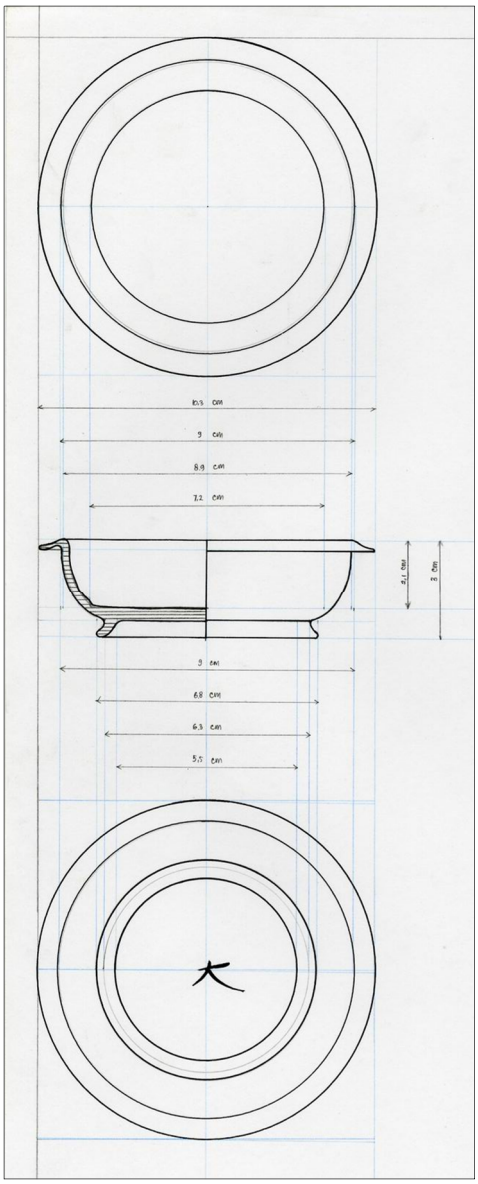


categorisation code [<wh> not noted]	height	dia bottom	dia top
D008L	4.2	10.6	17.9
D13/loc	4.3	10	18
D13/loc	4.3	10	17.5
D13/loc	4.2	10	17.2
D13/loc	4.3	10	17
D008A	4.3	9.9	17.9
D008B	4.1	9.5	17
D13/loc	4.3	9.5	17
D008H	3.1	9.2	14.1
D008F	3.5	9.1	16.9
D008E	3.8	9.1	15.9
D008I	3.1	9.1	14.7
D13/loc	4	9	17

categorisation code [<wh> not noted]	height	dia bottom	dia top
D008C	3.8	8.9	17.3
D41/loc	3.5	8.7	16.5
D30/loc	3.5	8.5	14
D008D	3.1	8.4	16.8
D30/loc	3	8.3	14.5
D30/loc	3	8.3	14.5
D7/loc	3.3	8	14.5
D7/loc	3.8	8	14.5
D7/loc	3.3	8	14
D008G	3.6	7.8	15
D008J	3.6	7.4	13.7
D008K	3.1	7.4	12.6
D7/loc	4.7	7.3	16.3

Fig.2.2-19: <D008I/wh> (above left), <D008a/wh> (above right), <D008h/wh> (centre) and comparable waregroups.

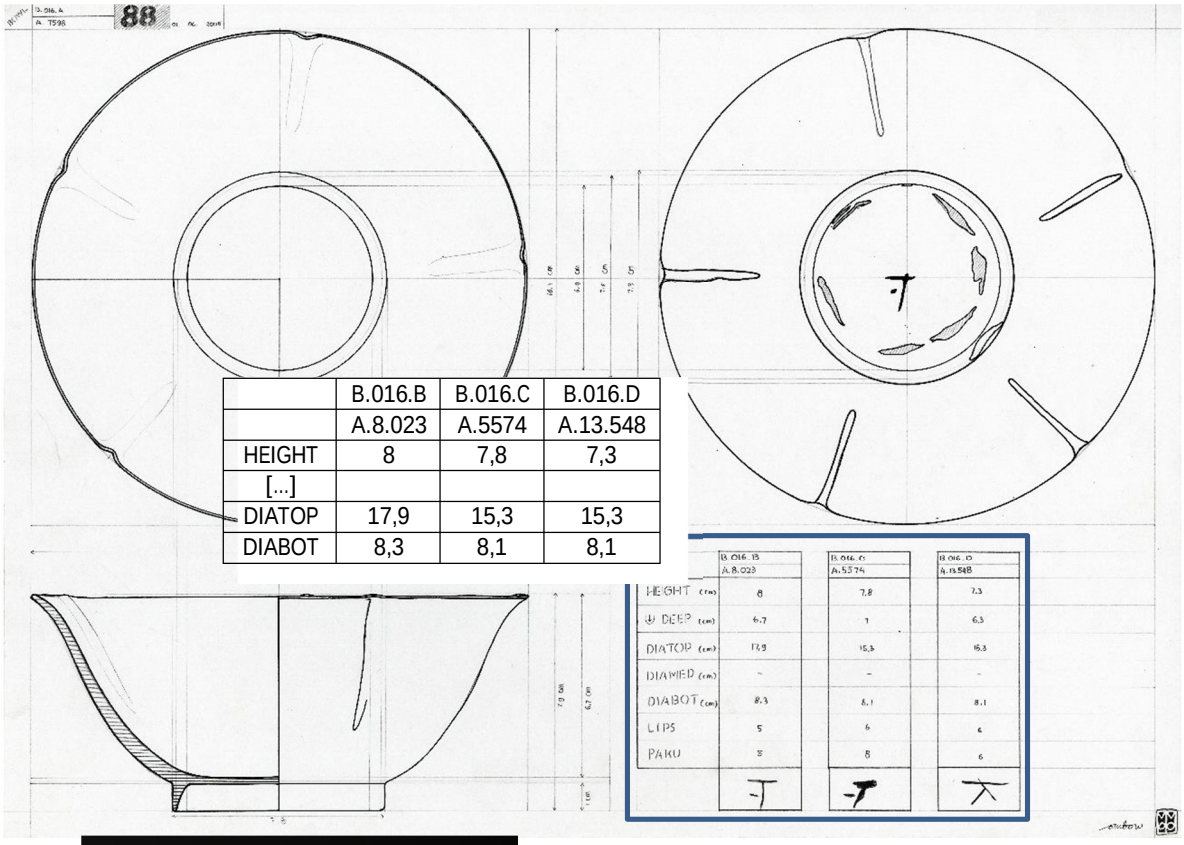




categorisation code [<wh> not noted]	height	dia bottom	dia top
D2/loc	4.5	10.3	15
D001A	4.2	10.1	16.1
D001B	3.9	9.9	15.6
D2/loc	4	9.7	14.3
D2/loc	4	9.6	15.1
D3/loc	4.3	9.5	16
D3/loc	4.3	9.5	15.5
D3/loc	4.3	9.5	15
D001C	4.2	9.5	14.9
D3/loc	4.3	9.5	14.7
D3/loc	6.3	9.5	14.7
D3/loc	4.3	9.5	14.7
D3/loc	4.3	9.5	14.7
D2/loc	4	9.3	14.3
D2/loc	4.1	9.2	14.6
D2/loc	3.8	9.2	14.3

categorisation code [<wh> not noted]	height	dia bottom	dia top
D2/loc	3.8	9.2	14.3
D2/loc	3.8	9.2	14.3
D2/loc	4	9	14.6
D2/loc	4.1	9	14.6
D2/loc	4.4	9	14.6
D2/loc	4.8	9	14.6
D2/loc	4.1	9	14.6
D2/loc	4.1	9	14.5
D2/loc	4.1	9	1.5
D001D	3.9	8.9	13.1
D001E	3.6	8.7	12.5
D25/loc	3.5	8.5	13
D25/loc	3.8	8.5	13
D25/loc	3.5	8.5	13
D001F	3	7.2	10.3

Fig.2.2-20: Measurements for <D001*/wh> and comparable waregroups. Groups with example showing 大 marked yellow (above, drawings for <D001c/wh> and <D001f/wh>); <D001d/wh>, example photograph displaying 上 in Fig.2.2-13, light blue.



	B.016.B	B.016.C	B.016.D
	A.8.023	A.5574	A.13.548
HEIGHT	8	7,8	7,3
[...]			
DIATOP	17,9	15,3	15,3
DIABOT	8,3	8,1	8,1

categorisation code [<wh> not noted]	height	dia bottom	dia top
B50/loc	7.7	8.5	19
B016A	8.5	7.8	18.4
B54/loc	8	8	18.2
B016B (measurement sheet)	8	8.3	17.9
B016B	8	8.4	17
B40/loc	8	8.5	16.8
B41/loc	8	8.2	16.2
B40/loc	8	8.5	16
B016C (measurement sheet)	7.8	8.1	15.3
B016D (measurement sheet)	7.3	8.1	15.3

Fig.2.2-21: Measurement sheet for <B016b-d/wh>, above; photograph of <B016b/wh>, displaying 上; comparable waregroups.

Fig.2.2-22: Dated bowl <BD061/wh>.

Fig.2.2-23: Objects with inscribed letters. Per row, from above left to bottom right: <BD057/wh>, 末 *mò*, 'last'; <BD051/wh>, 馮 *féng*, 'a surname'; <BD062/wh>, 天下太平 *tiānxià tàipíng*, 'all under heaven [is] peaceful; the world at peace'; <BD074/wh>, 供養 *gōngyǎng*, 'providing for (one's parents)'; <DD022/wh>, underneath 朱 *zhū*, 'a surname; vermillion', above 葉 *yè*, 'leaf'; <DD056/wh>, 本 *běn*, 'root, stem (of plant); origin; source; the current; foundation; basis; a surname'; cont. ….

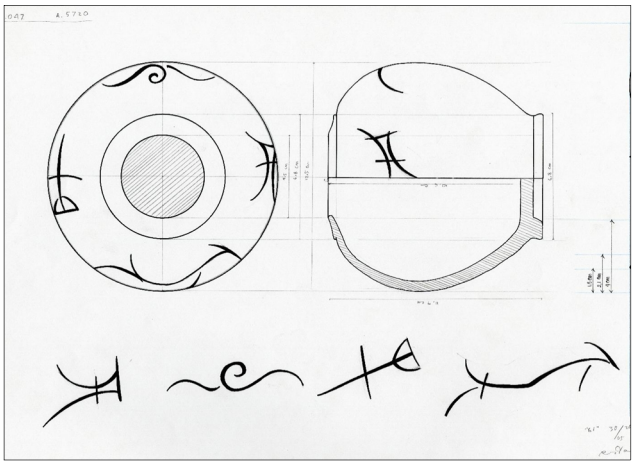


Fig.2.2-23, cont.: <J3/047/wh>,天下太平 *tiānxià tàipíng*.

Fig.2.2-24: Dragon motif on a shard from Si Longkou kiln, Gu Yingding, and line drawing of <DD008/wh>. Photograph courtesy Nai King Koh.

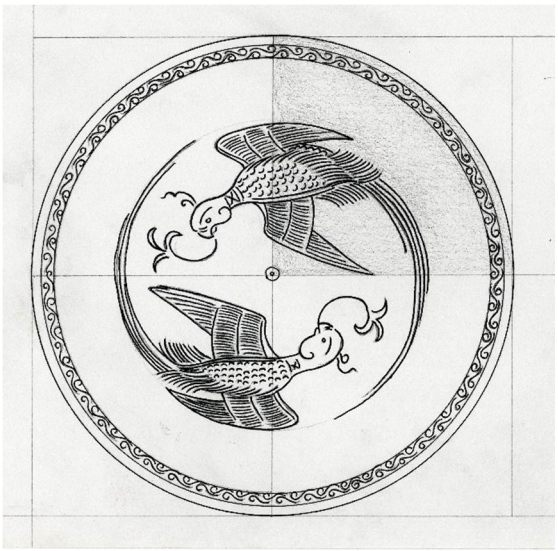


Fig.2.2-25: Parrots on an unprovenanced Yue shard and line drawing of <DD042/wh>. Photograph courtesy Nai King Koh.

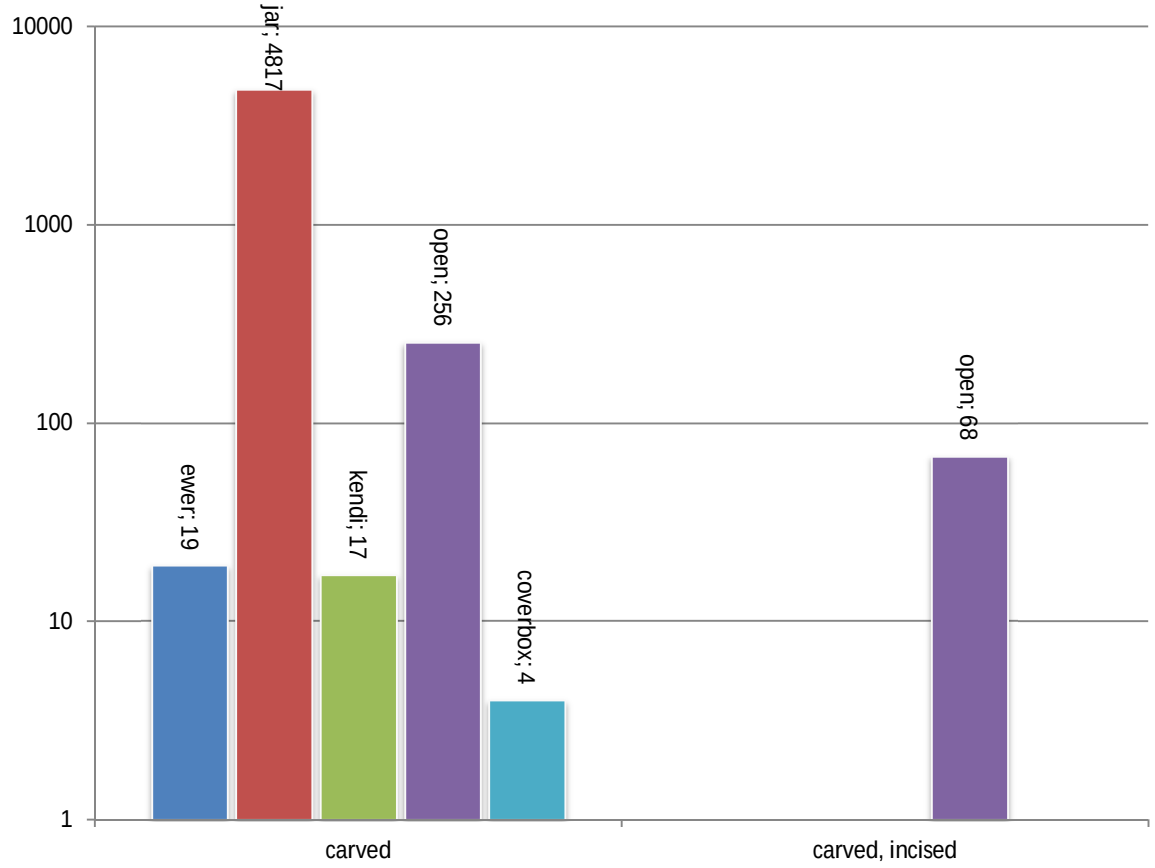


Fig.2.2-26: Objects with a carved outer surfaces per category; logarithmic scale.

Fig.2.2-27: Examples of lotus jars; grouped under <J3/*/wh>, above; <J10/002/wh>, below left; categories of ceramics with carved lotus motif, totals and percentages, below right.

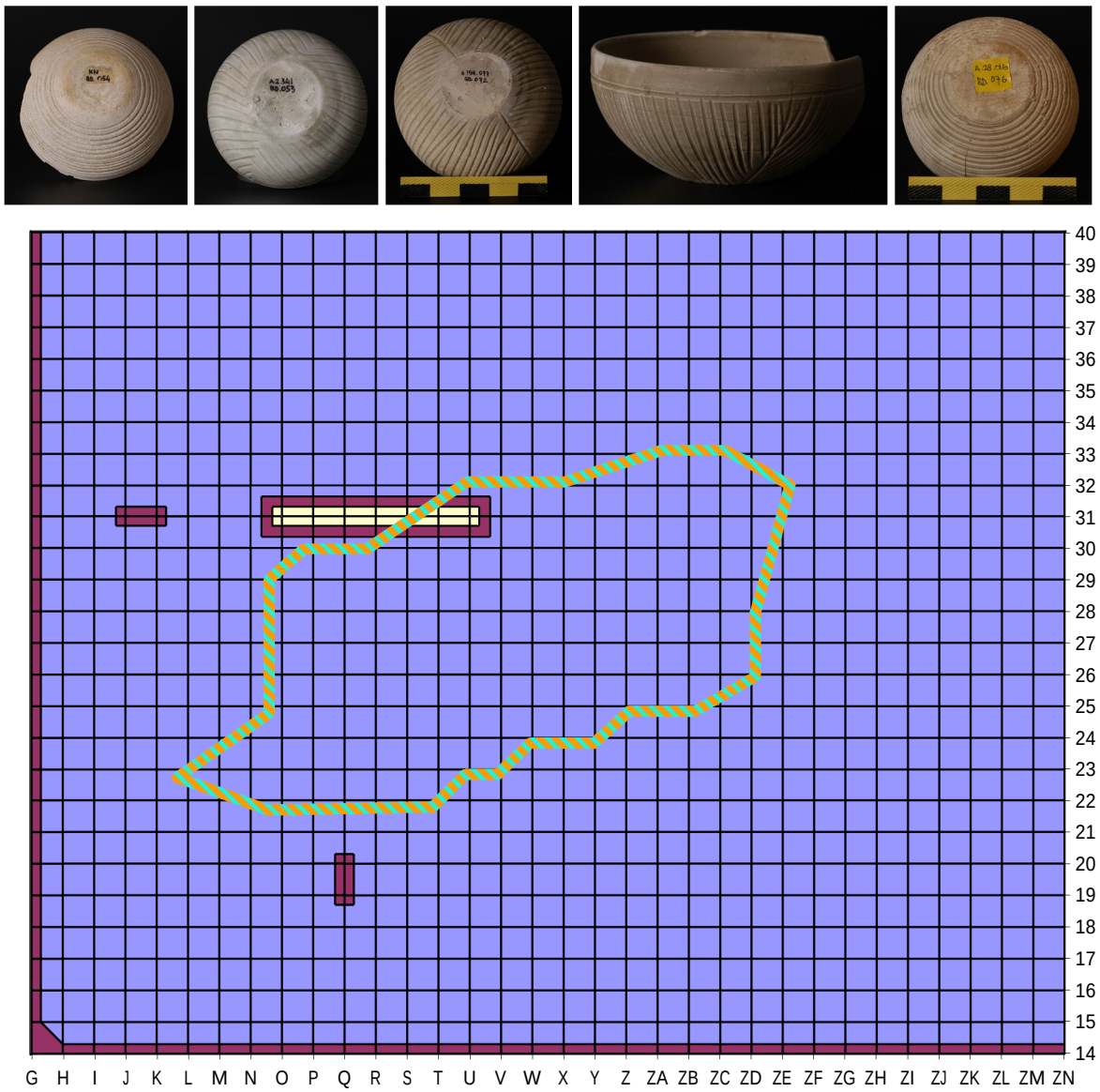


Fig.2.2-28: Distribution of vessels with deep and broad incisions, corrected chart.

Fig.2.2-29: “Open” vessels with an unglazed foot.

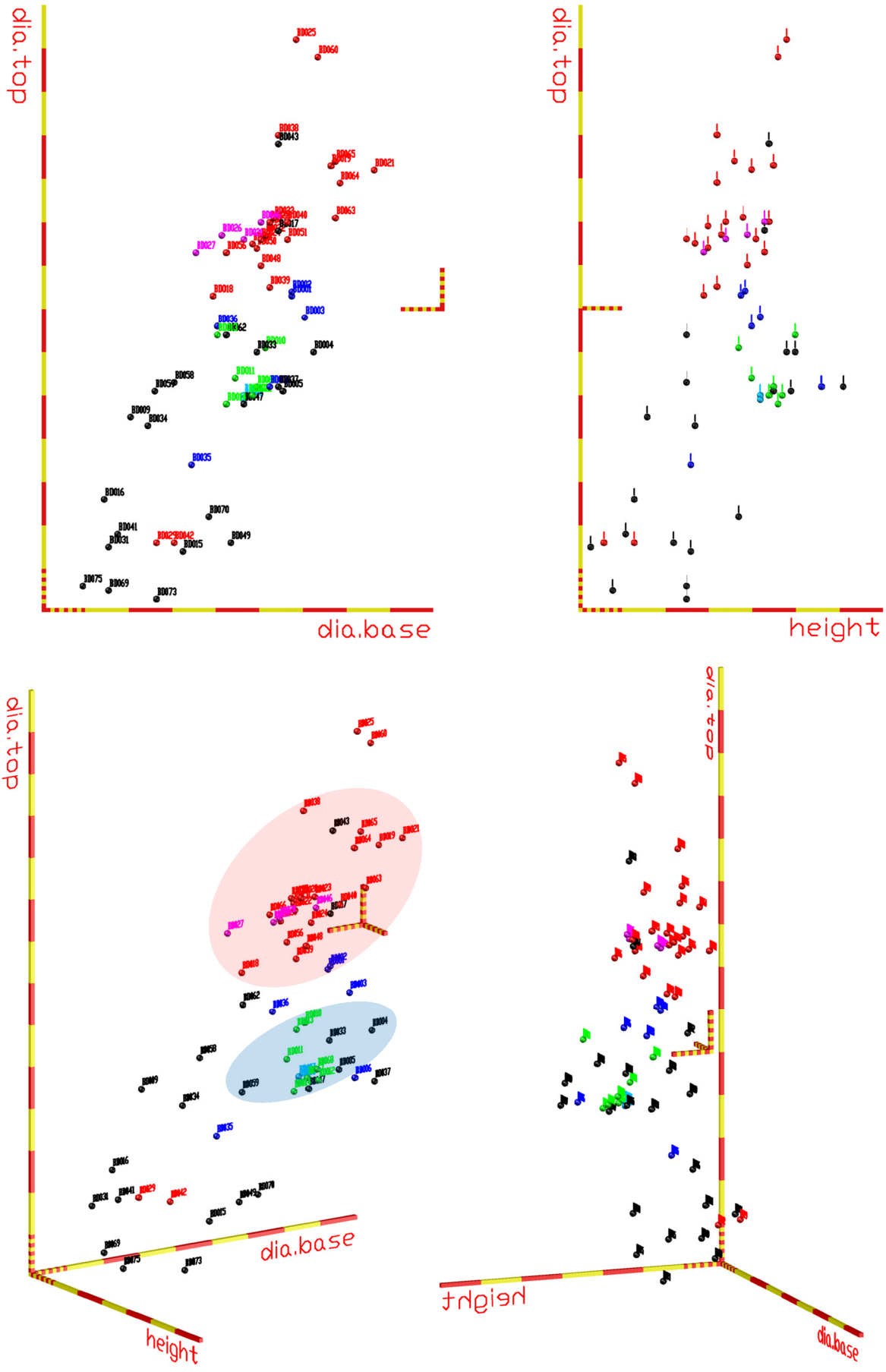


Fig.2.2-30: Two- and three-dimensional scatters of measurements for <BD*/loc>; scale in cm/mm. For colour codes see following figure.

Fig.2.2-31: Colour codes in previous figure. Red – recessed foot, slightly bevelled mouth rim; from top to bottom: <BD056/wh>, <BD040/wh>, <BD028/wh>, <BD022/wh>, <BD023/wh>. Cont. …

Fig.2.2-31: Colour codes in previous figure. Dark blue – flared mouth and footrim; from top to bottom: <BD035/wh>, <BD006/wh>, <BD003/wh>, <BD002/wh>, <BD001/wh>. Cont. …

Fig.2.2-31: Colour codes in previous figure. Green, first three rows from above – slightly flared, deep U-profile ('cono-segmental'), lotus pattern on exterior: <BD068/wh>, <BD014/wh>, <BD012/wh>, <BD010/wh>. Light blue, last row – slightly flared U-profile: <BD008/wh>. Cont. …

Fig.2.2-31, cont.: Colour codes in previous figure. First row: <BD033/wh>, U-shaped profile, petaled. Following rows, magenta – V-profile ('conical'): <BD020/wh> and <BD046/wh> compared to <BD017/wh>.

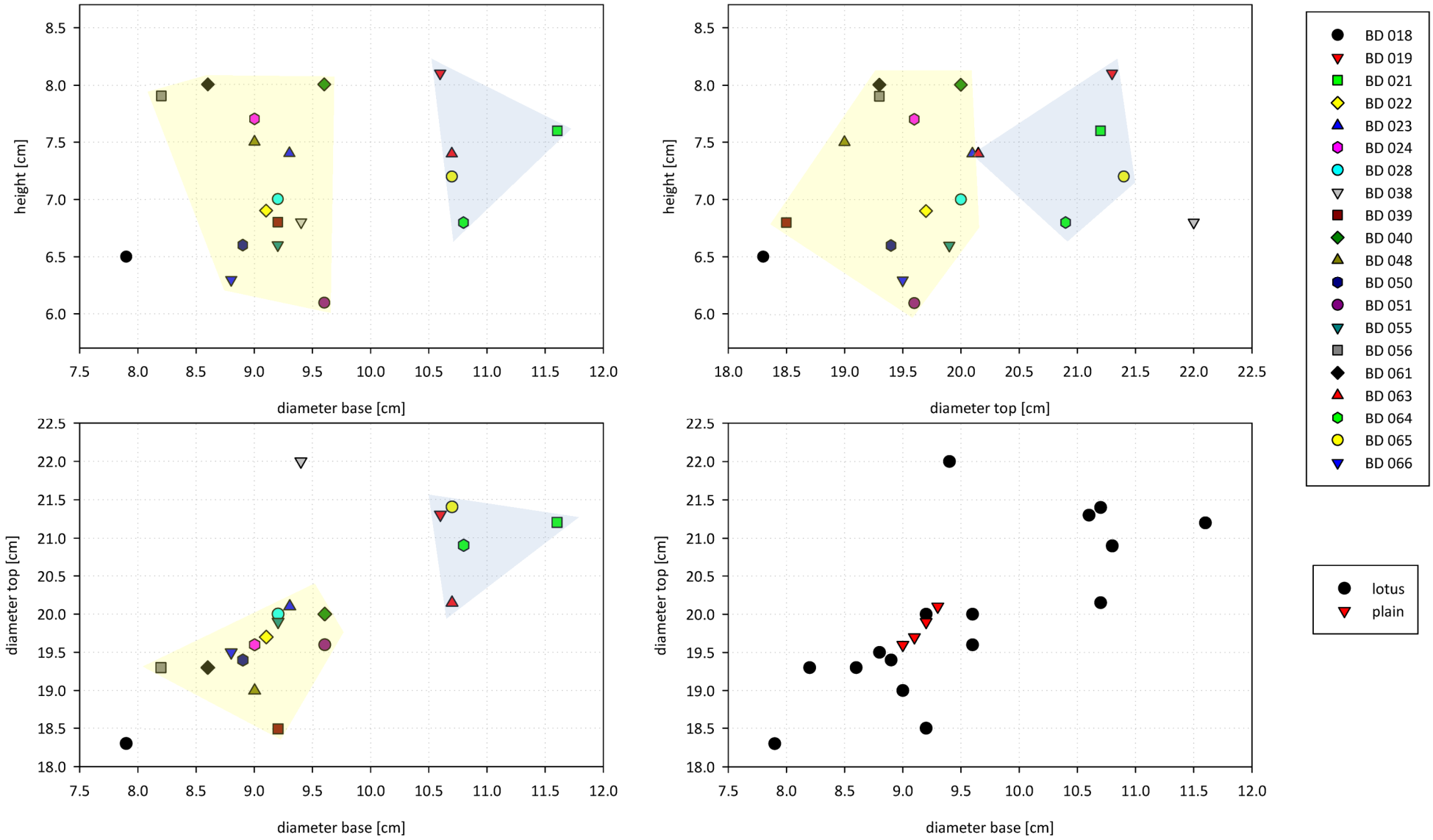


Fig.2.2-32: Two-dimensional scatters of measurements for “core” members of red group in Figs.2.2-30 and -31.

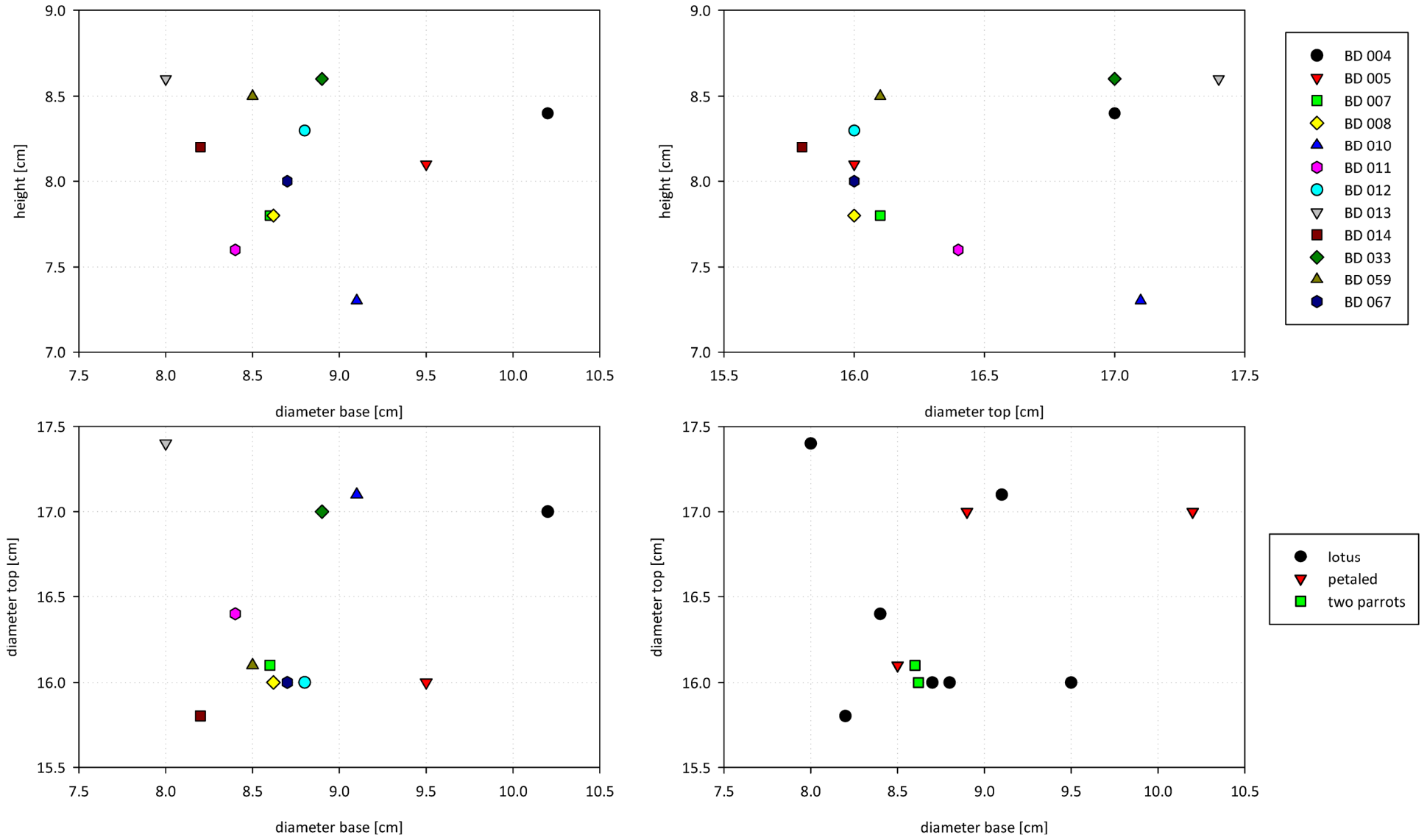
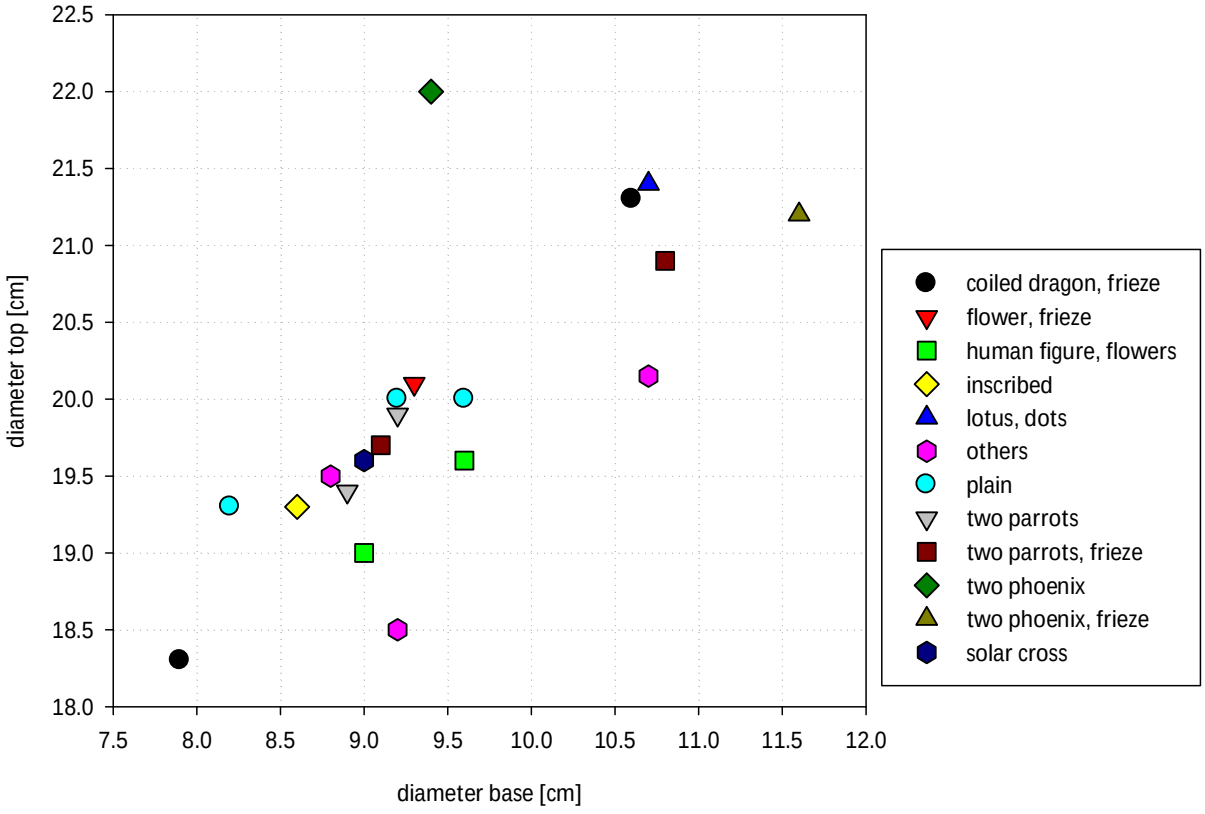


Fig.2.2-33: Two-dimensional scatters of measurements for “U-profiled” ceramics in Fig.2.2-27.



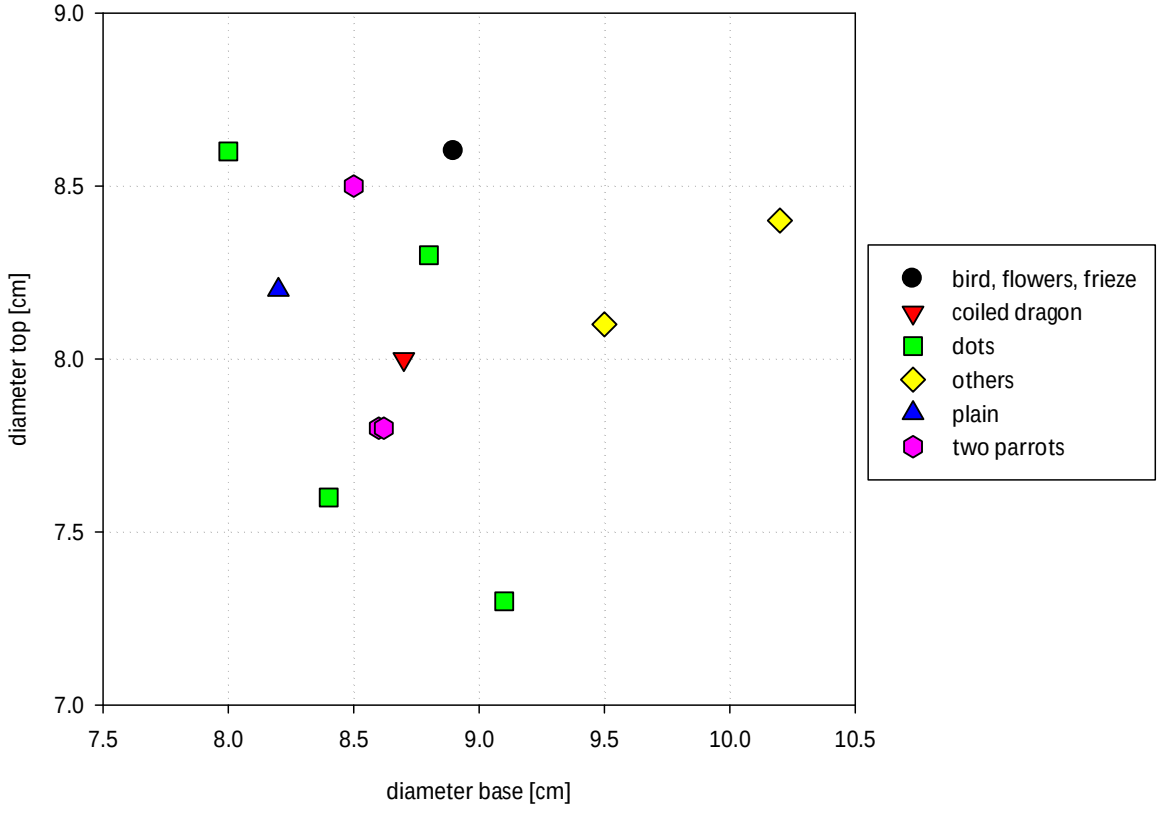


Fig.2.2-34: Motifs in interior of vessels with a recessed base (above) and a U-shaped profile (below).

dia bottom	dia top	height	code <wh>	height:diameter ratio
7	16.3	6.1	BD058	2.67
5.9	13.7	5.1	DD015	2.69
5.9	13.7	5.1	DD044	2.69
9.3	20.1	7.4	BD023	2.72
10.7	20.1	7.4	BD063	2.72
9.2	18.5	6.8	BD039	2.72
4.7	11.7	4.3	DD018	2.72
5.7	12.8	4.7	BD041	2.72
5.7	12.8	4.7	DD017	2.72
9.4	21.8	8	BD043	2.73
5.7	13.8	5	DD031	2.76
5.4	13.6	4.9	BD016	2.78
5.4	13.6	4.9	DD016	2.78
11.6	21.2	7.6	BD021	2.79
8.6	19.6	7	BD020	2.80
7.9	18.3	6.5	BD018	2.82
9.1	19.7	6.9	BD022	2.86

dia bottom	dia top	height	code <wh>	height:diameter ratio
9.2	20	7	BD028	2.86
9.8	24.2	8.4	BD025	2.88
10.3	23.8	8.2	BD060	2.90
8.9	19.4	6.6	BD050	2.94
12.8	16.9	5.7	DD029	2.96
7.5	19.3	6.5	BD027	2.97
10.7	21.4	7.2	BD065	2.97
6	15.5	5.2	BD009	2.98
6.6	12.6	4.2	BD029	3.00
9.2	19.9	6.6	BD055	3.02
5.3	13	4.3	DD019	3.02
10.8	20.9	6.8	BD064	3.07
8.8	19.5	6.3	BD066	3.10
5.5	12.5	3.9	BD031	3.21
9.6	19.6	6.1	BD051	3.21
9.4	22	6.8	BD038	3.24
11.8	17.7	5.4	DD037	3.28

Fig.2.2-35: "Overlap" of height:diameter ratios of vessels registered as decorated bowls (red) and dishes (blue) in the <wh> classifications.

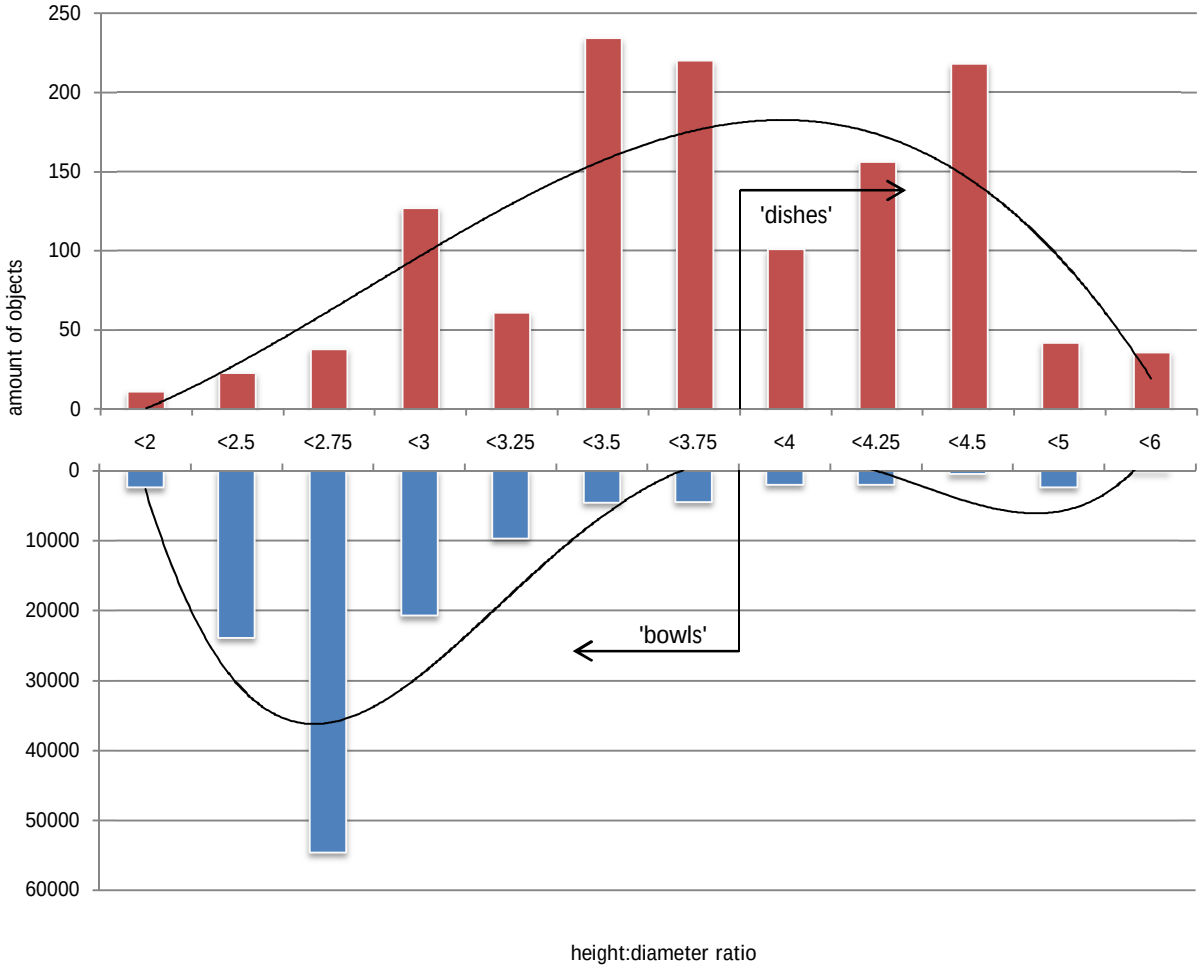


Fig.2.2-36: All decorated (above, red) and undecorated (below, blue) "open" vessels, height:diameter ratios and respective amounts; polynomial trend-line. Division into 'bowls' and 'dishes' follows Mason 2004.

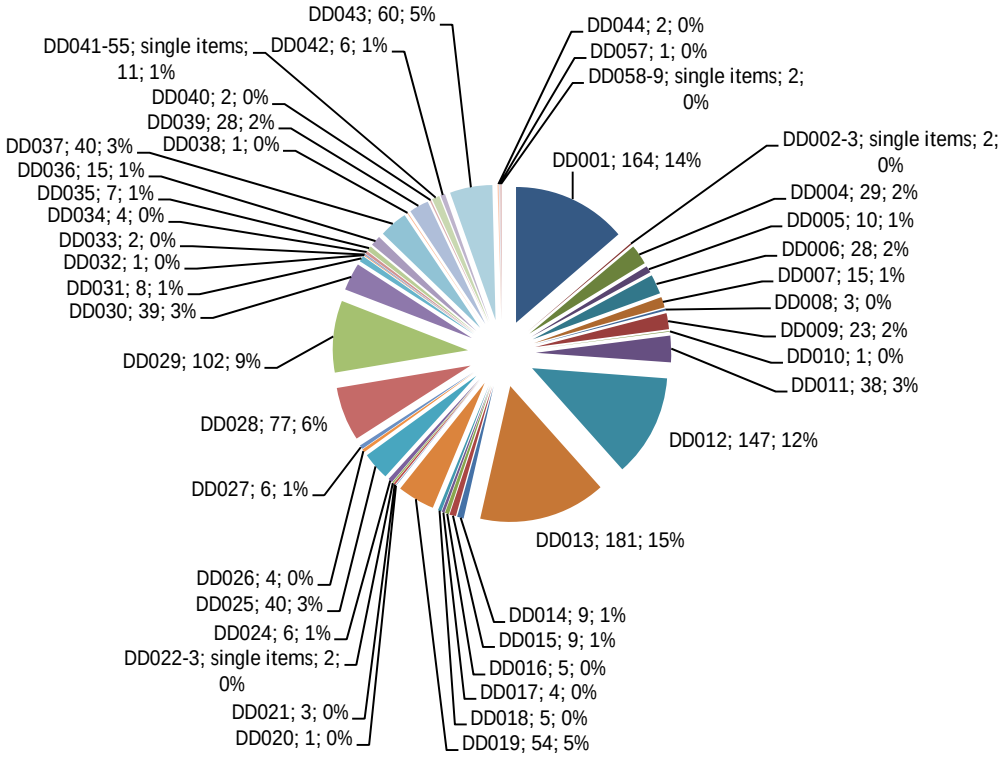


Fig.2.2-37: Groups, numbers of objects and their percentages for category <DD*/wh>.

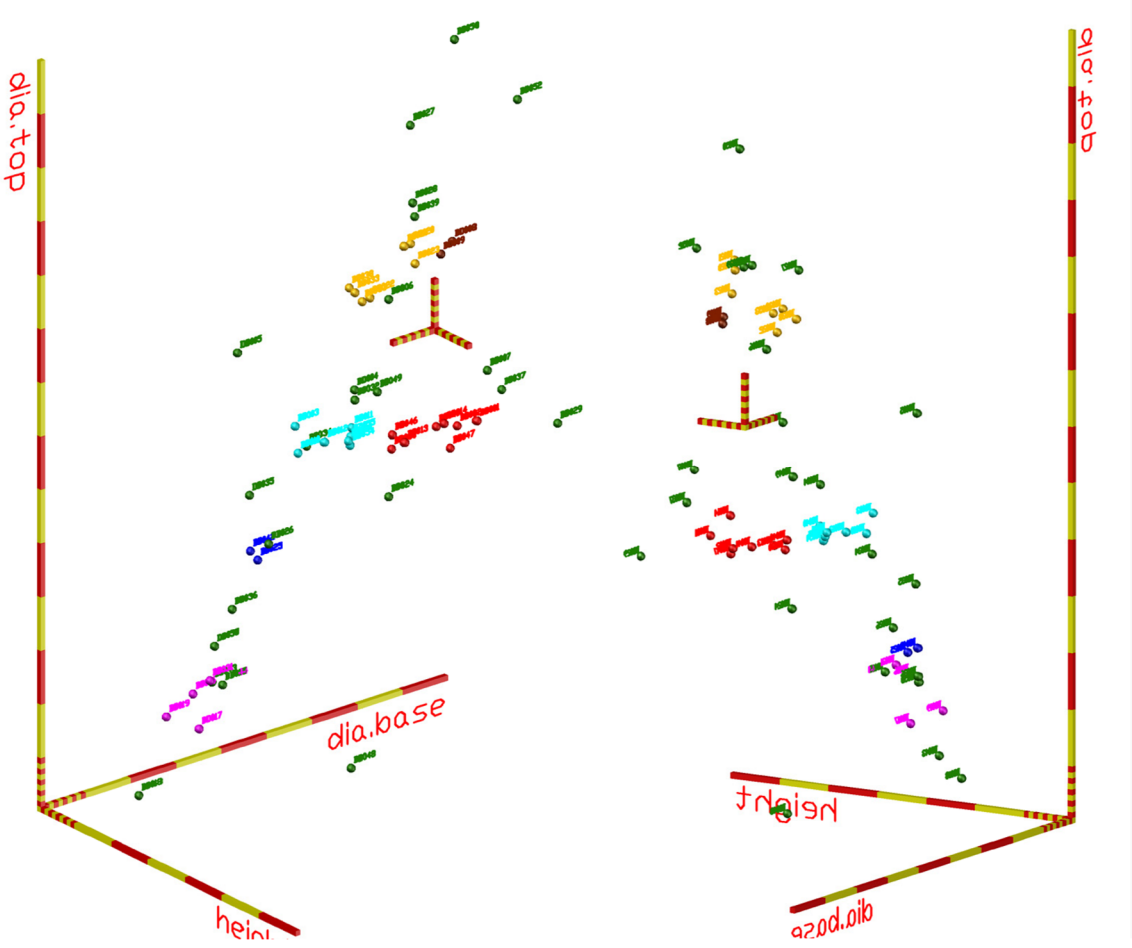


Fig.2.2-38: Three dimensional scatter of measurements for <DD*/wh>.

Fig2.2-39: Example photographs for colour codes in previous figure. Red – broad flared foot, biconical to cono-segmental profile. Cont. …

Fig.2.2-39: Example photographs for colour codes in previous figure. Light blue – shallow cono-segmental or conical profile. Cont. …

Fig.2.2-39, cont.: Example photographs for colour codes in previous figure. First three rows, orange – broadened and bevelled rim, segmental profile, recessed foot; last two rows, magenta – high conical profile.

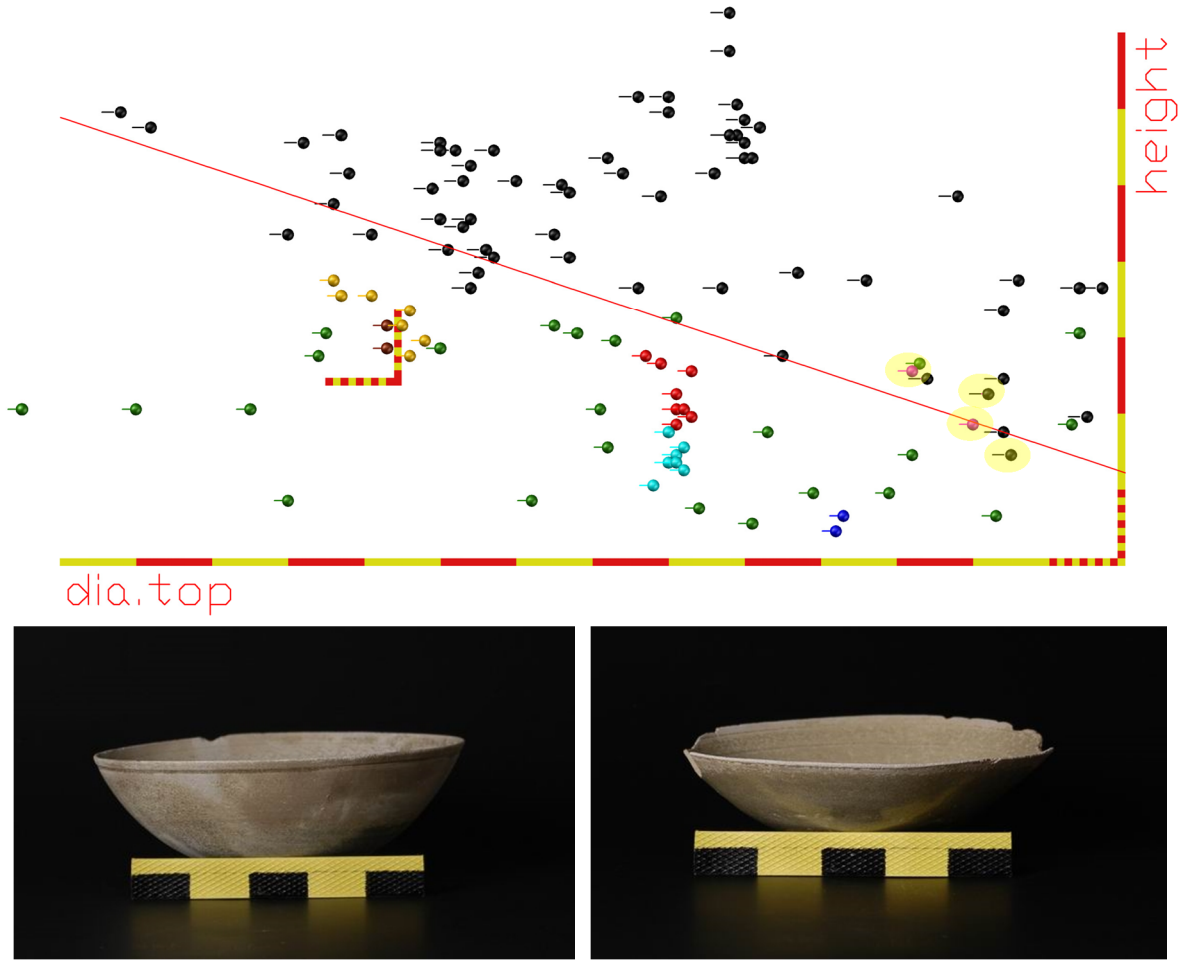


Fig.2.2-40: Comparison of top diameter and height of <BD*/wh> (black) and <DD*/wh> (all other colours); <BD31, 41/wh> (below) and comparable "magenta" group in <DD*/wh> marked by transparent yellow. Red line marks height:diameter ratio 3.

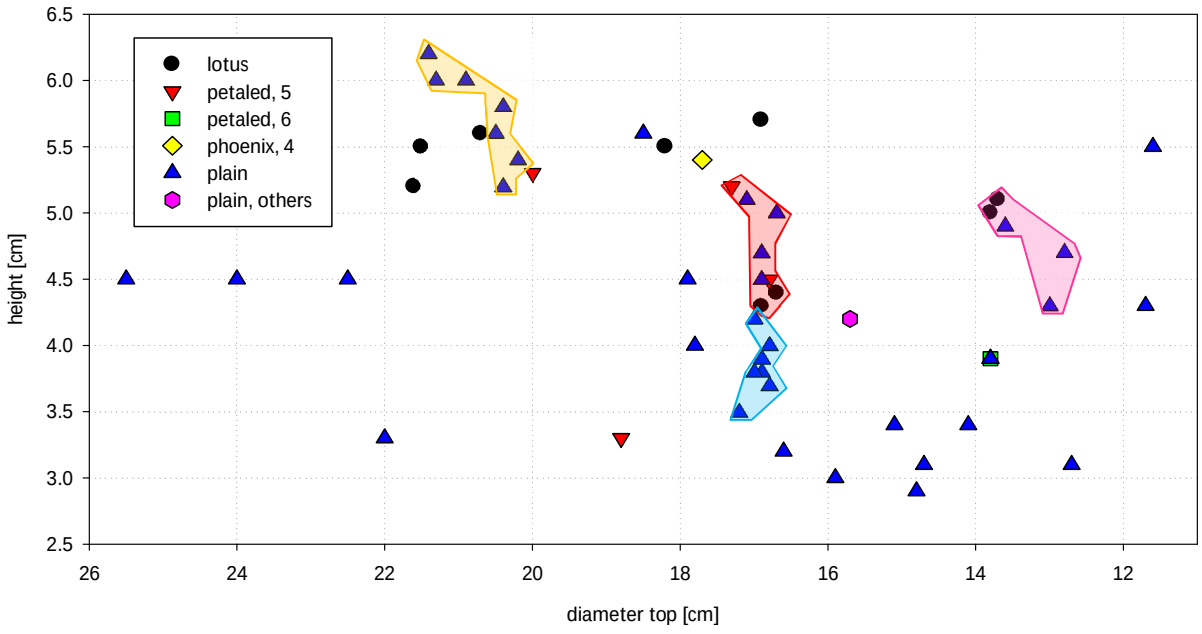


Fig.2.2-41: Exterior ornamentation, <DD*/wh>.

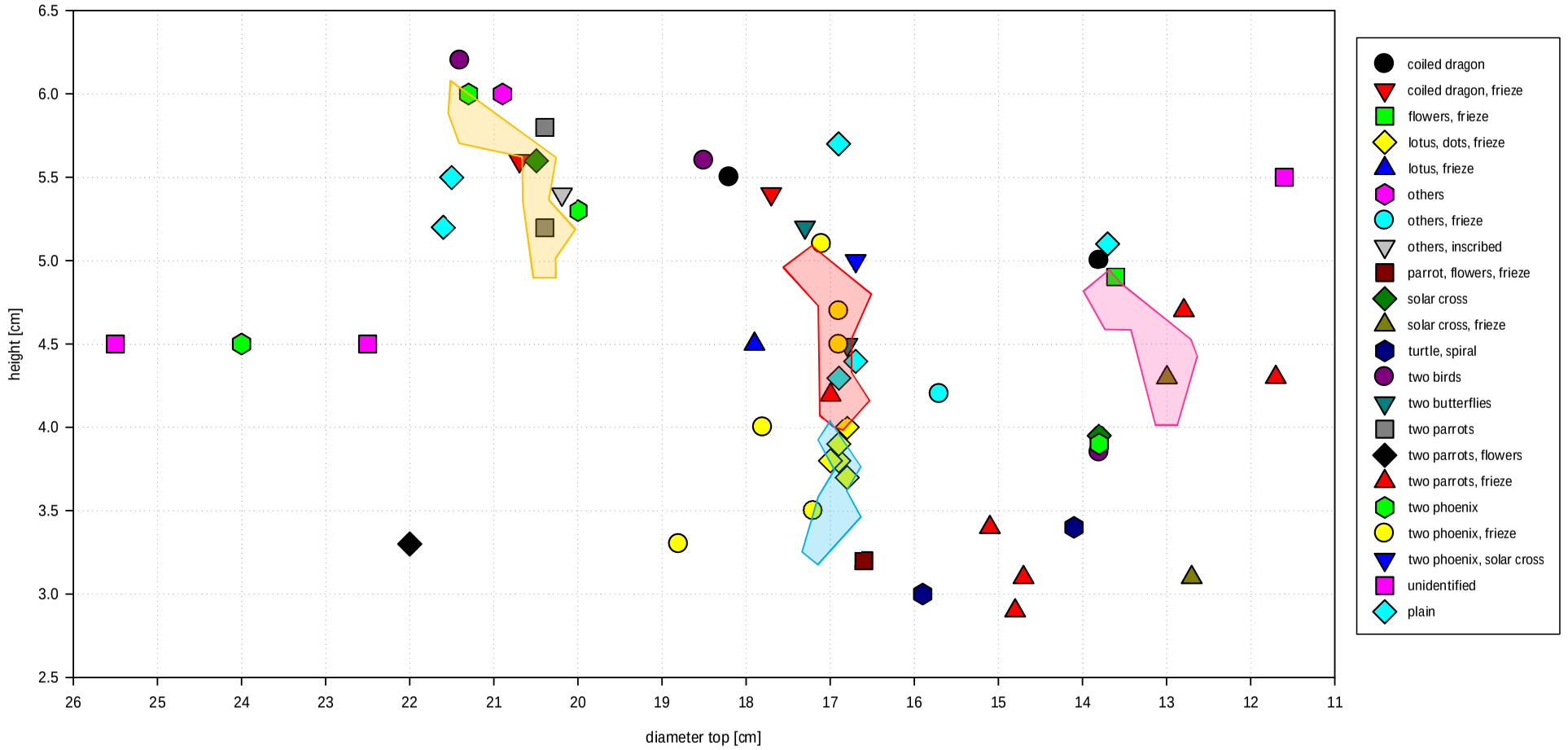


Fig.2.2-42: Interior decoration patterns for <DD*/wh> by measurements reported for height and top diameter.

type general	shape	art.#	categorisation codes <loc>	<wh>	dia bottom	dia top	height	'descriptive' / loc	interior decorat.
open, decorated	broad bevelled rim	26043	B70	DD020	9	21.5	5.5	bowl with 2 parrots	two phoenix
open, decorated	broad bevelled rim	148456	B67	DD021	8.2	20.5	5.5	bowl with parrots inside	two birds
open, decorated	broad bevelled rim	149807	B19	DD021	6.3	19	6	bowl ...	two birds
open, decorated	broad bevelled rim	26044	B71	DD021	9	21.5	5.5	bowl with 2 storks	two birds
open, decorated	broad bevelled rim	25886	D69	DD022	9	20.5	5	dish, with floral pattern inside and 2 characters outside	others, inscribed
open, decorated	broad bevelled rim	25697	B68	DD023	9.2	21	6	bowl, with wave pattern ...	others
open, decorated	broad bevelled rim	148632	B68	DD033	9.2	21	6	bowl with motifs inside ...	solar cross
open, decorated	broad bevelled rim	33730	D69	DD033	9	20.5	5	dish with floral pattern ...	solar cross
open, decorated	broad bevelled rim	26143	B67	DD038	8.2	20.5	5.5	bowl, with 2 parrots ...	two parrots
open, decorated	broad bevelled rim	25696	B67	DD053	8.2	20.5	5.5	bowl, with parrots ...	two parrots

Fig.2.2-43: "Orange" group and corresponding <loc> entries.

type general	shape	art.#	categorisation codes <loc>	<wh>	dia bottom	dia top	height	'descriptive' / loc	interior decorat.
open, plain	ambiguous	26187	B67	B009D	8.2	20.5	5.5	Bowl	
open, plain	ambiguous	26190	B67	B009D	8.2	20.5	5.5	Bowl	
open, plain	ambiguous	26188	B67	B009E	8.2	20.5	5.5	Bowl	
open, plain	ambiguous	26189	B67	B011D	8.2	20.5	5.5	Bowl	
open, plain	ambiguous	82211	B71	B004B	9	21.5	5.5	Bowl	
open, plain	ambiguous	82213	B71	B004C	9	21.5	5.5	Bowl	
open, plain	ambiguous	82216	B71	B004E	9	21.5	5.5	Bowl ...	
open, plain	ambiguous	82212	B71	B005J	9	21.5	5.5	Bowl	
open, plain	ambiguous	82215	B71	B005J	9	21.5	5.5	Bowl ...	
open, plain	ambiguous	82214	B71	B005J	9	21.5	5.5	Bowl ...	
open, plain	broad bevelled rim, foot	148288	B19	B050	6.3	19	6	Bowl ...	
open, plain	broad bevelled rim, foot	154160	B19	B050	6.3	19	6	Bowl ...	
open, plain	broad bevelled rim, foot	154522	B19	B050	6.3	19	6	Bowl ...	
[open, plain	broad bevelled rim, foot	28534	B72	B050	11.7	21	7.5	Bowl ...	
open, plain	broad bevelled rim, foot	30404	B72	B050	11.7	21	7.5	Bowl ...	
open, plain	broad bevelled rim, foot	151572	B72	B050	11.7	21	7.5	Bowl ...	
open, plain	broad bevelled rim, foot	151569	D69	B050	9	20.5	5	Dish ...]	
no code	broad bevelled rim	148629	B19		6.3	19	6	Bowl ...	
no code	broad bevelled rim	153823	B19		6.3	19	6	Bowl	
no code	broad bevelled rim	4969	B19		6.3	19	6	Bowl ...	
no code	broad bevelled rim	4826	B19		6.3	19	6	Bowl ...	
no code	broad bevelled rim	146879	B19		6.3	19	6	Bowl ...	
no code	broad bevelled rim	146880	B19		6.3	19	6	Bowl ...	

Fig.2.2-44, cont. …

type general	shape	art.#	categorisation codes <loc>	<wh>	dia bottom	dia top	height	'descriptive' / loc	interior decorat.
no code	broad bevelled rim	26048	B67		8.2	20.5	5.5	Bowl, no drawing	
no code	broad bevelled rim	65806	B67		8.2	20.5	5.5	Bowl, out parrots ...	
no code	broad bevelled rim	72814	D69		9	20.5	5	Dish, out pattern	
open, plain	broad bevelled rim	149810	B19	D020A	6.3	19	6	Bowl ...	
open, plain	broad bevelled rim	1015	B19	D020B	6.3	19	6	Bowl ...	
open, plain	broad bevelled rim	149488	B19	D020B	6.3	19	6	Bowl ...	
open, plain	broad bevelled rim	148630	B19	D020B	6.3	19	6	Bowl ...	
open, plain	broad bevelled rim	148454	B19	D020B	6.3	19	6	Bowl ...	
open, plain	broad bevelled rim	148453	B19	D020B	6.3	19	6	Bowl ...	
open, plain	broad bevelled rim	147656	B19	D020B	6.3	19	6	Bowl ...	
open, plain	broad bevelled rim	149489	B19	D020B	6.3	19	6	Bowl ...	
open, plain	broad bevelled rim	149808	B19	D020D	6.3	19	6	Bowl ...	
open, plain	broad bevelled rim	150729	B19	D020D	6.3	19	6	Bowl, 5 rims, carved outside ...	
open, plain	broad bevelled rim	149809	B19	D020D	6.3	19	6	Bowl ...	
open, plain	broad bevelled rim	128066	B19	D020E	6.3	19	6	Bowl ...	
open, plain	broad bevelled rim	4825	B19	D020R	6.3	19	6	Bowl ...	
open, plain	broad bevelled rim	65804	B67	D020A	8.2	20.5	5.5	Bowl, out parrots ...	
open, plain	broad bevelled rim	93053	B67	D020B	8.2	20.5	5.5	Bowl, out pattern ...	
open, plain	broad bevelled rim	93051	B67	D020B	8.2	20.5	5.5	Bowl, out pattern	
open, plain	broad bevelled rim	93054	B67	D020C	8.2	20.5	5.5	Bowl, out pattern ...	
open, plain	broad bevelled rim	65805	B67	D020C	8.2	20.5	5.5	Bowl, out parrots ...	
open, plain	broad bevelled rim	93052	B67	D020D	8.2	20.5	5.5	Bowl, out pattern ...	
open, plain	broad bevelled rim	26049	B67	D020E	8.2	20.5	5.5	Bowl, no drawing ...	
open, plain	broad bevelled rim	128069	B68	D020A	9.2	21	6	Bowl, out pattern ...	
open, plain	broad bevelled rim	55522	B70	D020C	9	21.5	5.5	Bowl ...	
open, plain	broad bevelled rim	55523	B70	D020C	9	21.5	5.5	Bowl ...	
open, plain	broad bevelled rim	55521	B70	D020D	9	21.5	5.5	Bowl ...	
open, plain	broad bevelled rim	55683	B71	D020A	9	21.5	5.5	Bowl, with out pattern ...	
open, plain	broad bevelled rim	55682	B71	D020A	9	21.5	5.5	Bowl, with out pattern ...	
open, plain	broad bevelled rim	55680	B71	D020A	9	21.5	5.5	Bowl, with out pattern	
open, plain	broad bevelled rim	55679	B71	D020A	9	21.5	5.5	Bowl, with out pattern	
open, plain	broad bevelled rim	30570	B71	D020B	9	21.5	5.5	Bowl	
open, plain	broad bevelled rim	30571	B71	D020B	9	21.5	5.5	Bowl, eroded and chipped	
open, plain	broad bevelled rim	55681	B71	D020B	9	21.5	5.5	Bowl, with out pattern ...	

Fig.2.2-44, cont. …

type general	shape	art.#	categorisation codes <loc>	<wh>	dia bottom	dia top	height	'descriptive' / loc	interior decorat.
open, plain	broad bevelled rim	55674	B71	D020C	9	21.5	5.5	Bowl, with out pattern	
open, plain	broad bevelled rim	55678	B71	D020C	9	21.5	5.5	Bowl, with out pattern	
open, plain	broad bevelled rim	55684	B71	D020C	9	21.5	5.5	Bowl, with out pattern ...	
open, plain	broad bevelled rim	55685	B71	D020C	9	21.5	5.5	Bowl, with out pattern ...	
open, plain	broad bevelled rim	55675	B71	D020C	9	21.5	5.5	Bowl, with out pattern	
open, plain	broad bevelled rim	29920	B71	D020D	9	21.5	5.5	Bowl	
open, plain	broad bevelled rim	55677	B71	D020D	9	21.5	5.5	Bowl, with out pattern	
open, plain	broad bevelled rim	55676	B71	D020D	9	21.5	5.5	Bowl, with out pattern	
open, plain	broad bevelled rim	75745	D69	D020B	9	20.5	5	Dish, out pattern	
open, plain	broad bevelled rim	75746	D69	D020C	9	20.5	5	Dish, out pattern	
open, plain	broad bevelled rim	72815	D69	D020D	9	20.5	5	Dish, out pattern ...	
open, plain	broad bevelled rim	72817	D69	D020D	9	20.5	5	Dish, out pattern ...	
open, plain	broad bevelled rim	123790	D69	D020D	9	20.5	5	Dish, out pattern, eroded	
open, plain	broad bevelled rim	72816	D69	D020D	9	20.5	5	Dish, out pattern ...	
open, plain	broad bevelled rim	151568	D69	D020D	9	20.5	5	Dish ...	

Fig.2.2-44, cont.: Double-crosschecked entries for "orange" group; for colour legend see text.

<B67/loc>

<B70/loc>

<B72/loc>

<D020*/wh>

<D050/wh>

Fig.2.2-45: Footed and non-footed waregroups with 'broad bevelled rims'.

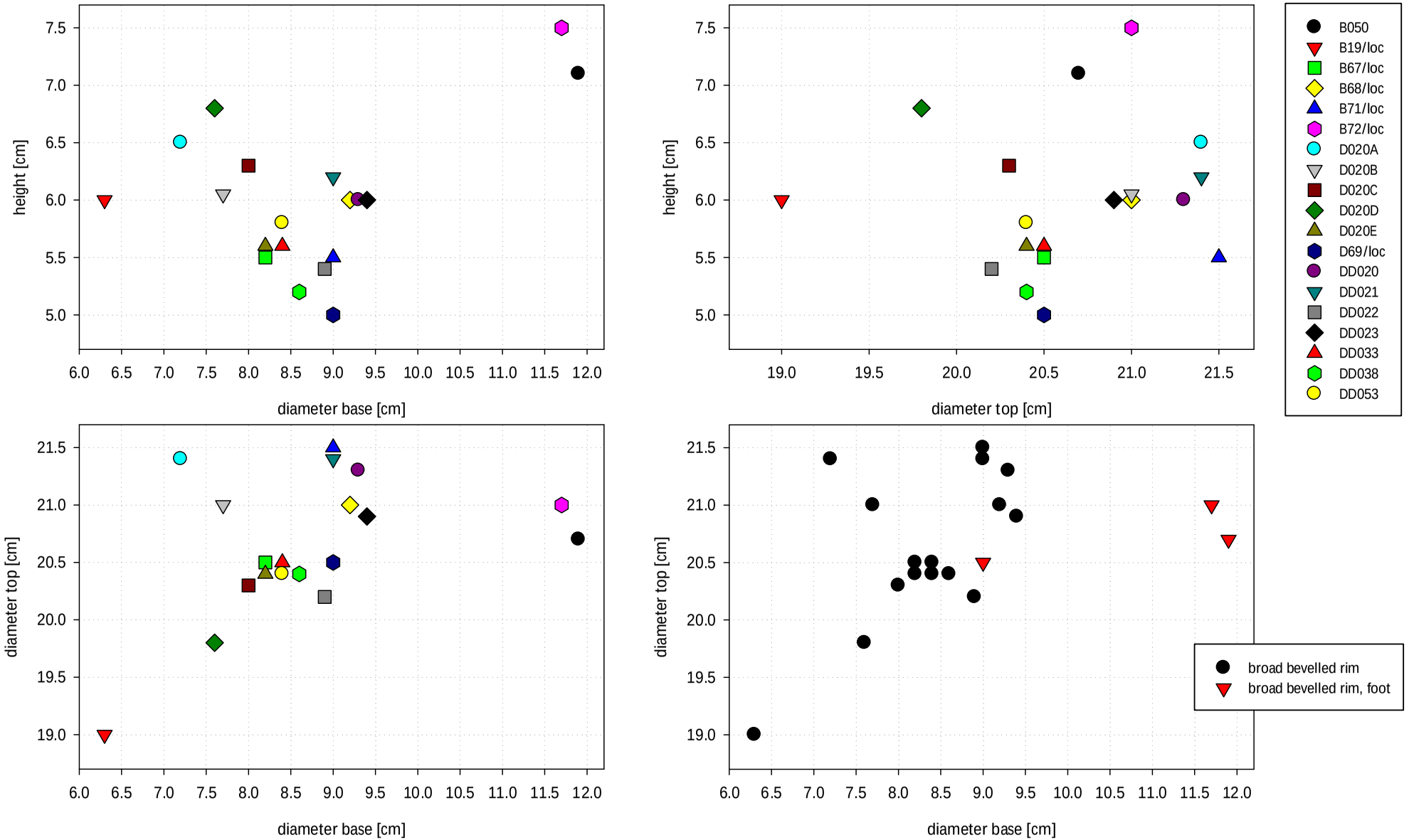
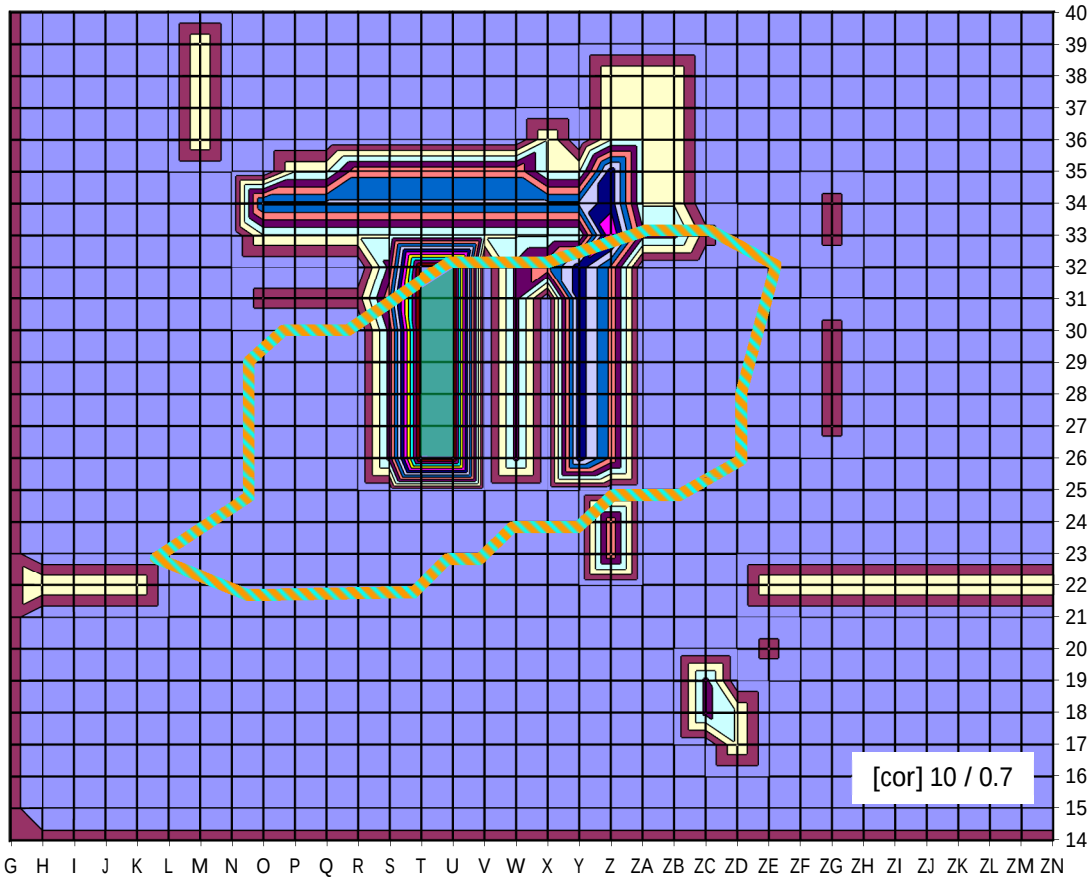


Fig.2.2-46: Two-dimensional scatters of measurements for vessels with broad and bevelled rims. </wh> not noted.



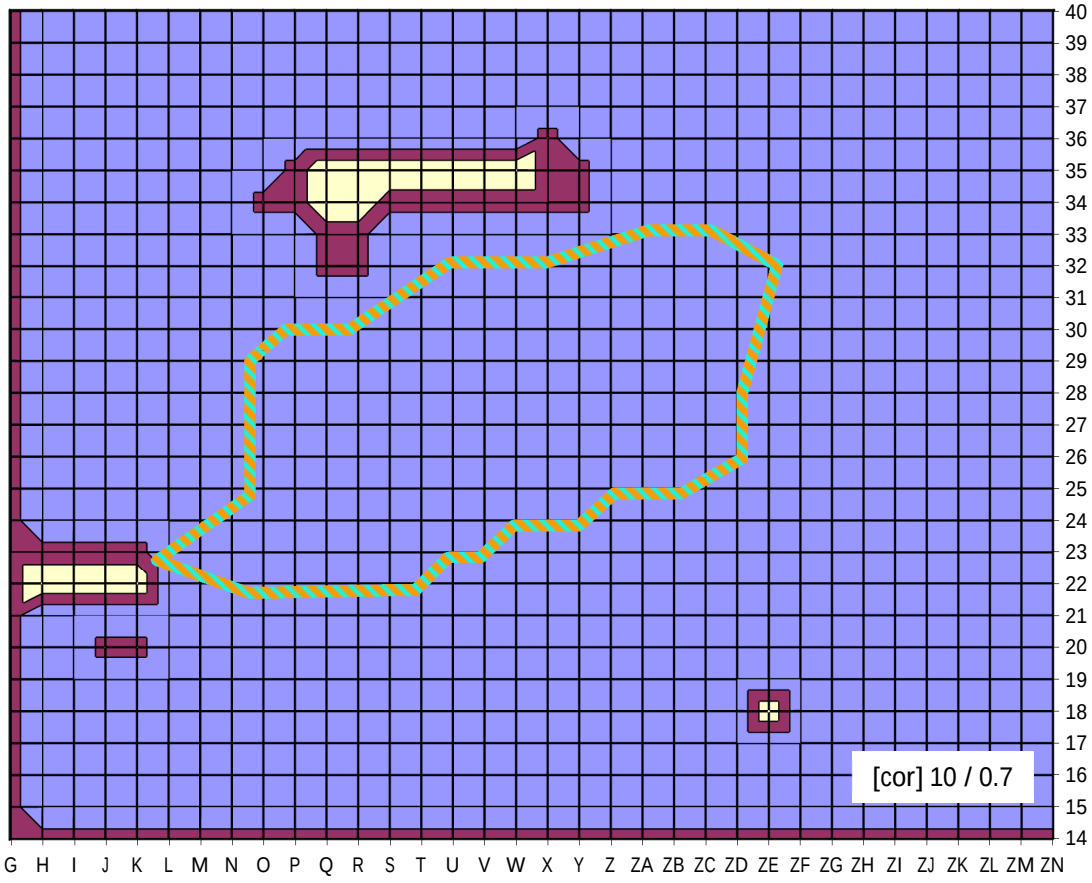
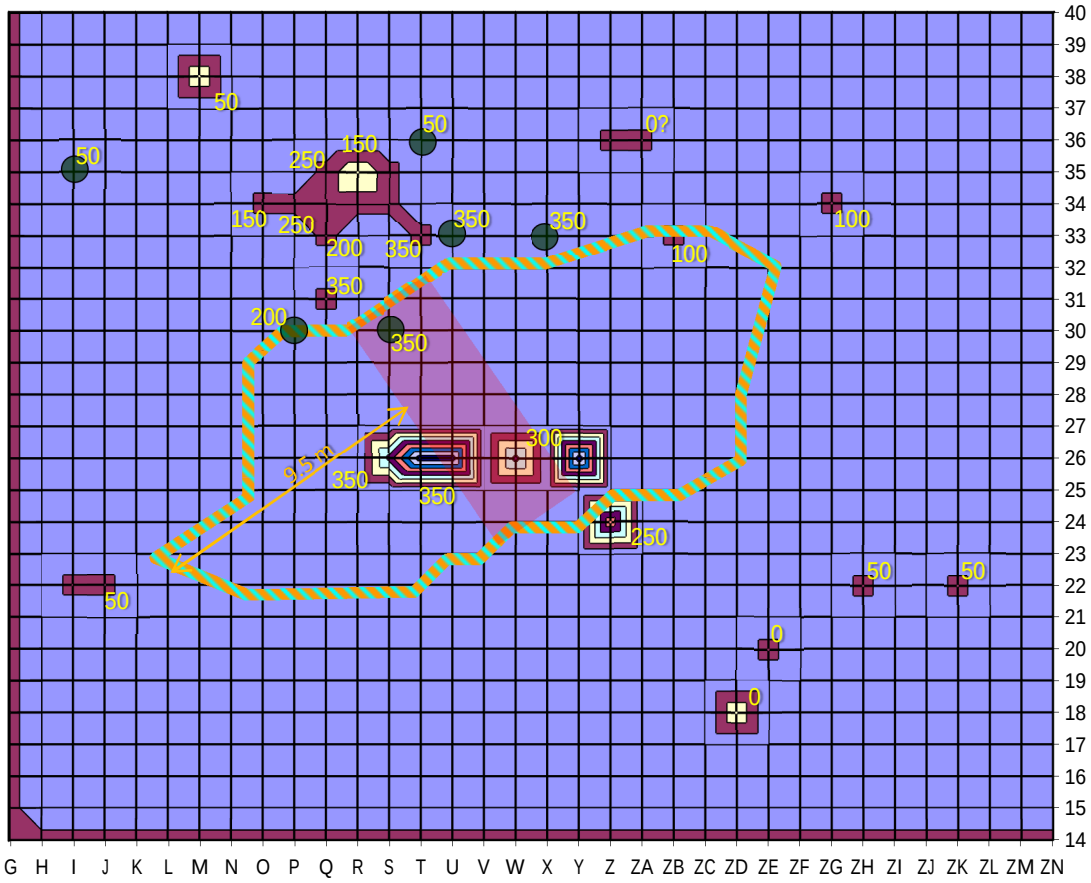


Fig.2.2-47: Corrected distribution charts for vessels with a broad and bevelled rim, undecorated (above) and decorated (below).



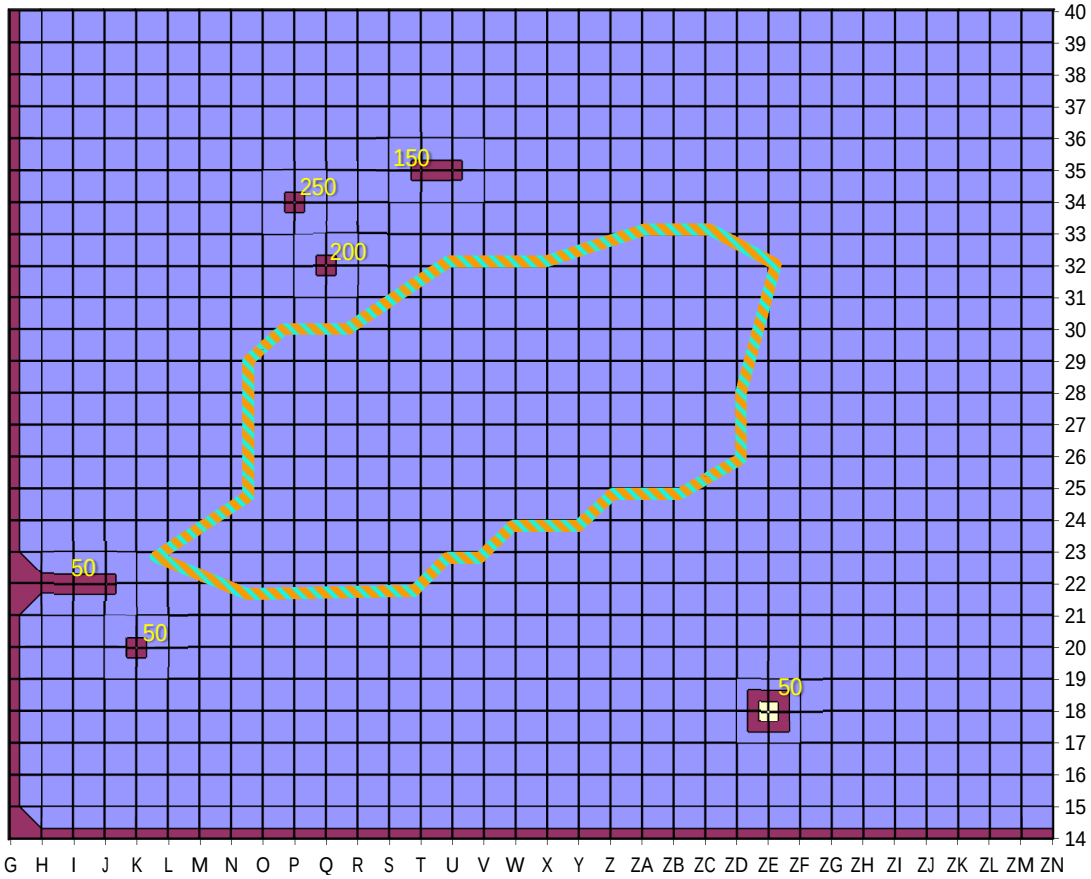


Fig.2.2-48: Uncorrected distribution charts, vessels with a broad and bevelled rim, undecorated (above) and decorated (below). Green circles note the six footed vessels with that shape; yellow numbers |z| values. Approximate position of 'tween-deck marked in transparent red.

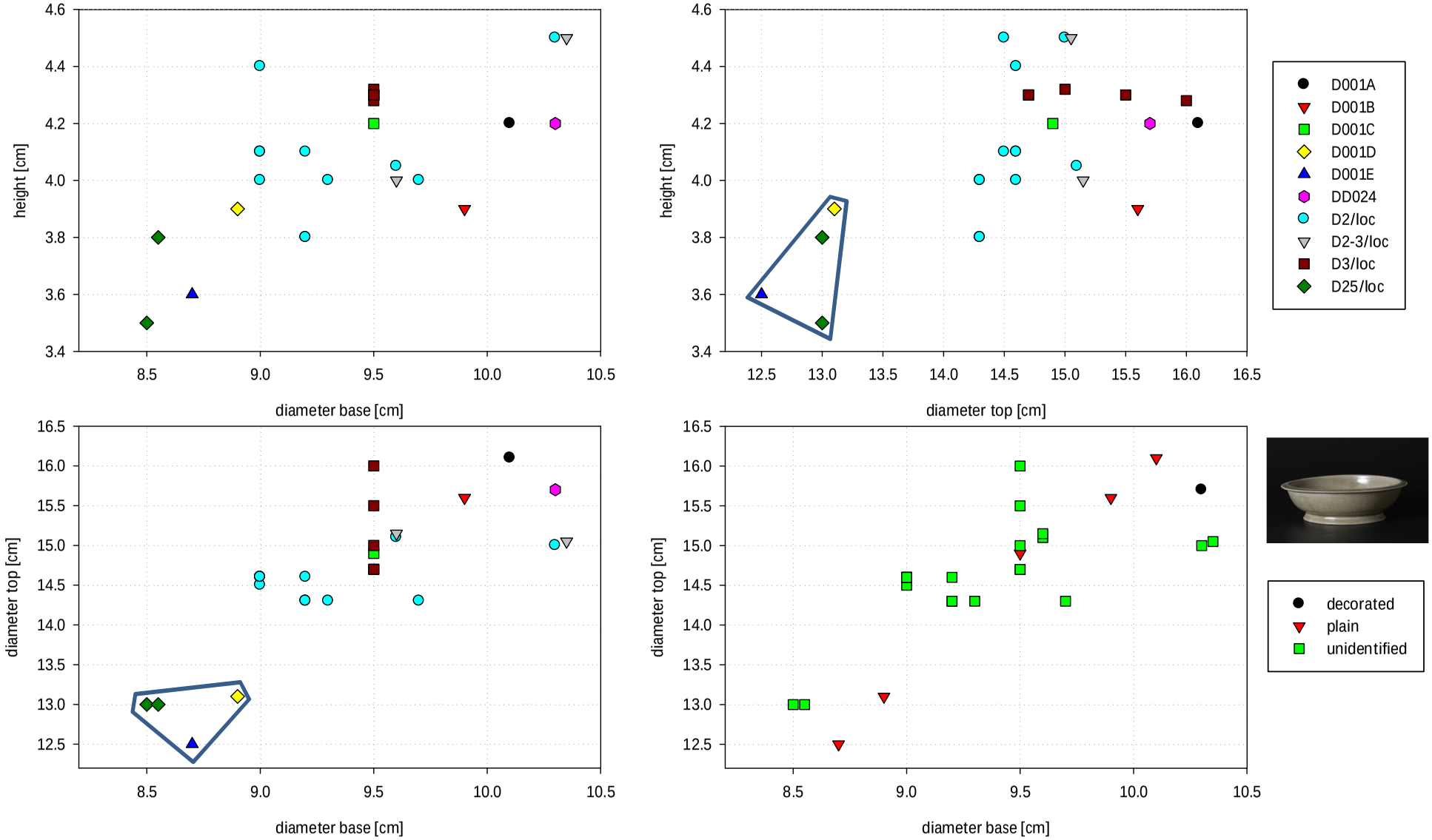


Fig.2.2-49: Measurements of small open vessels with a broadened and bevelled mouth rim.

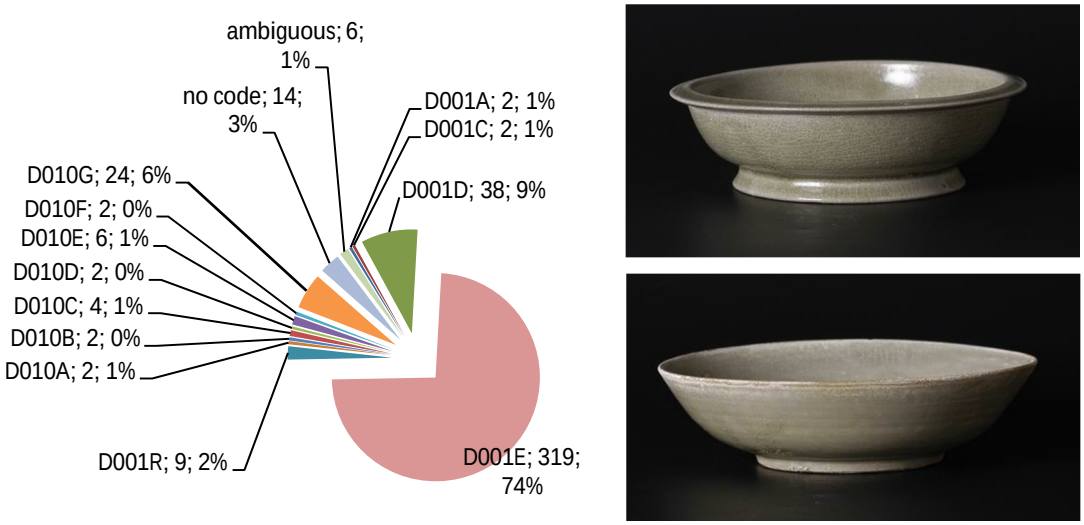


Fig.2.2-50: <D25/loc> and corresponding <wh> groupings. Right, example photos for <D001*/wh> (above) and <D010*/wh> (below).

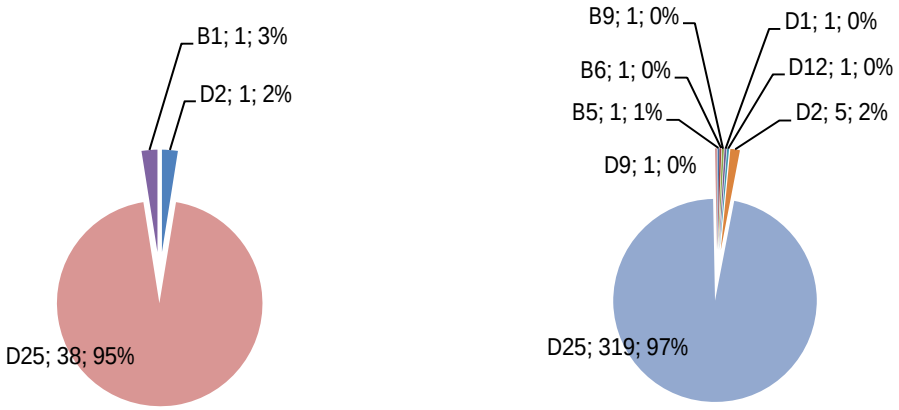


Fig.2.2-51: <D001e/wh> (left) and <D001e/wh> (right) and corresponding <loc> categorisations.

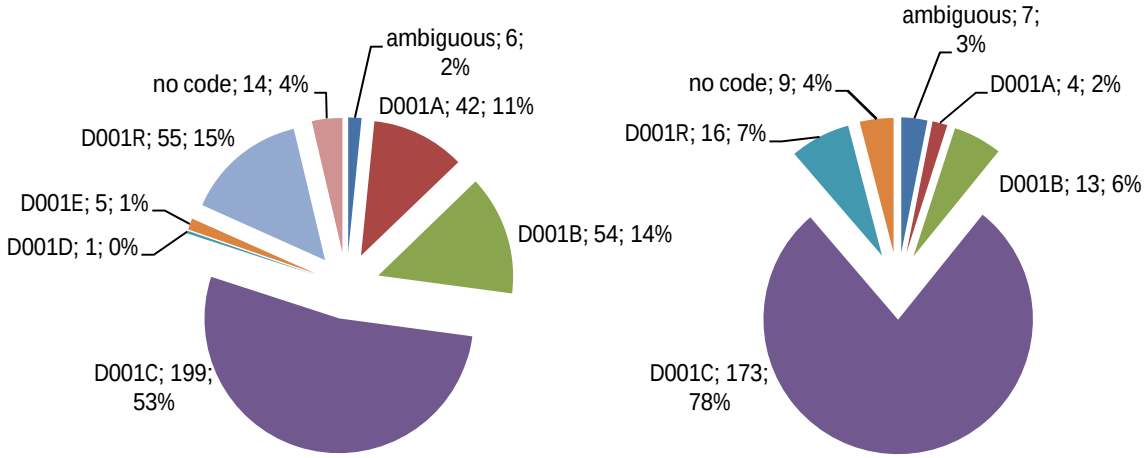


Fig.2.2-52: <D2/loc> (left) and <D3/loc> (right) and corresponding <wh> categorisations.

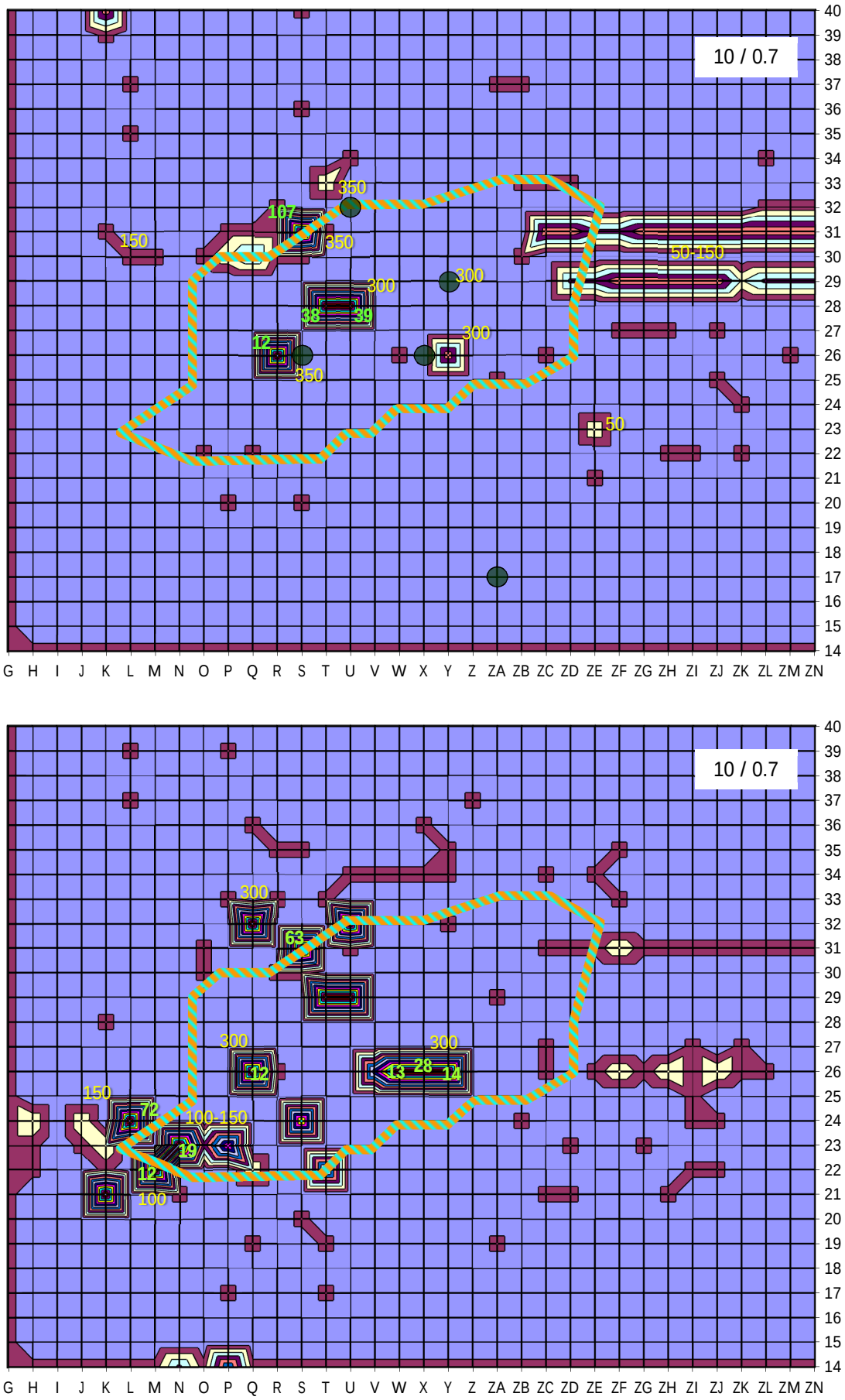


Fig.2.2-53: Distribution of undecorated vessels with a broadened and bevelled rim, uncorrected charts; smaller sizes, above; larger, below. Yellow numbers note |z|; green ones number of objects registered at selected points. Green dots in the chart above mark <DD024/wh>, the decorated version.

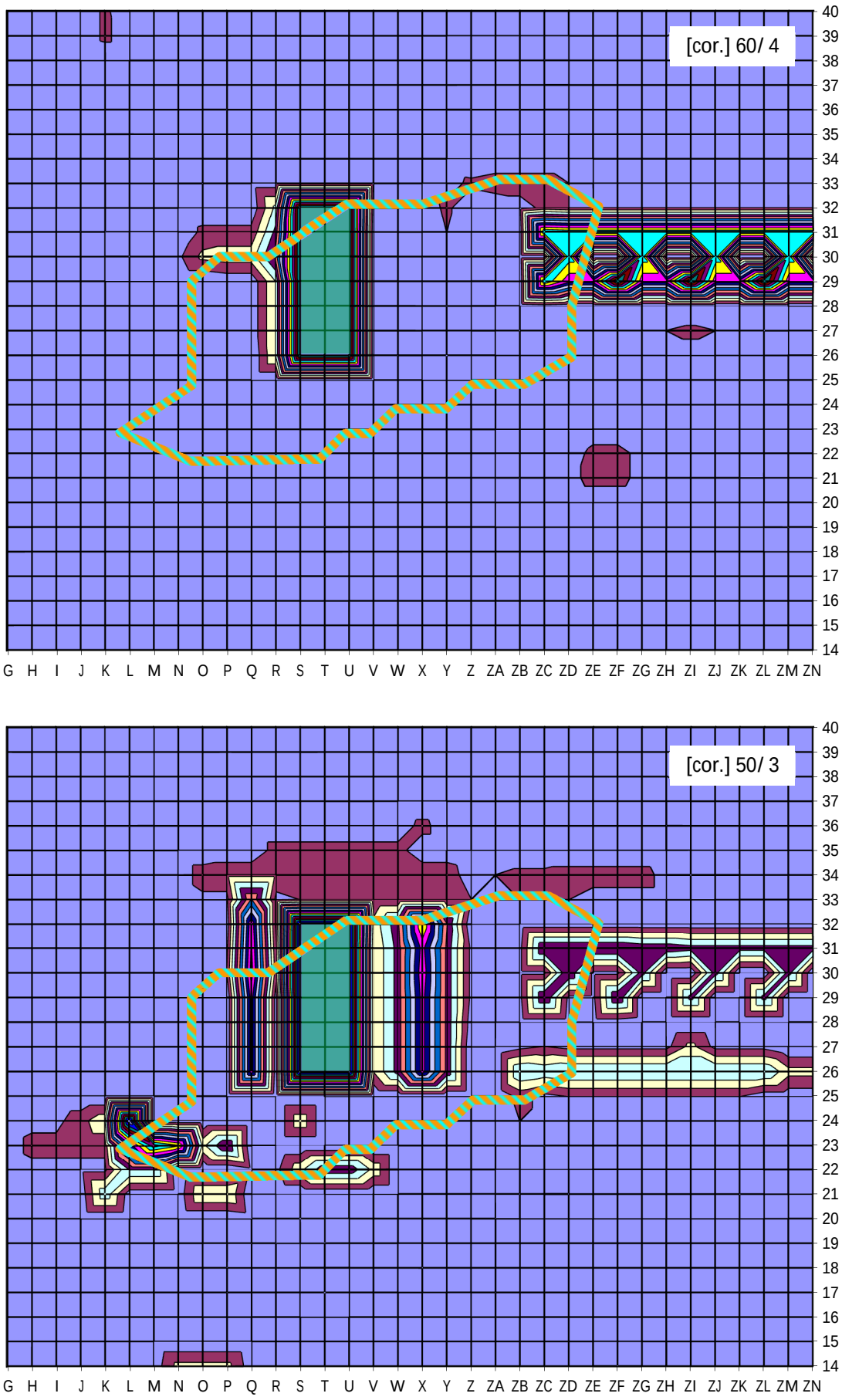


Fig.2.2-54: Distribution of undecorated vessels with a broadened and bevelled rim, corrected charts. Proposed smaller sizes, above; larger, below.

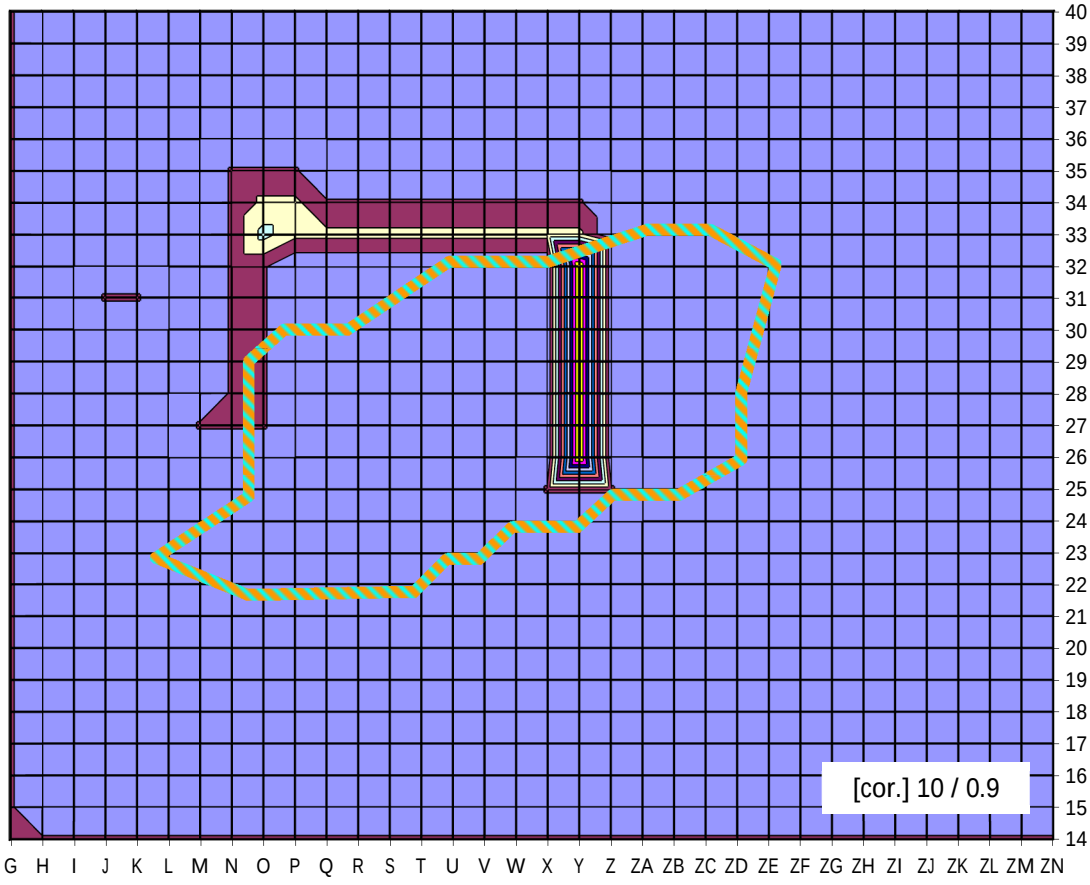


Fig.2.2-55: Distribution of <Big Bowl*/wh> with a broadened and bevelled rim.

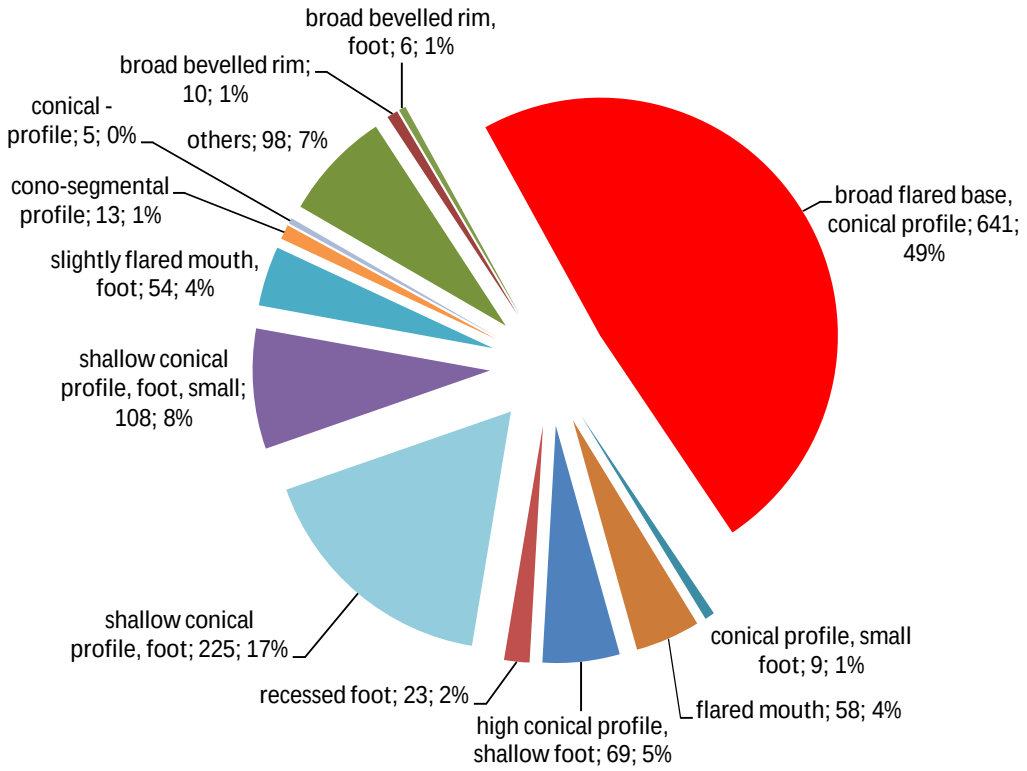


Fig.2.2-56: Basic shapes of decorated “open” vessels; totals; percentage.

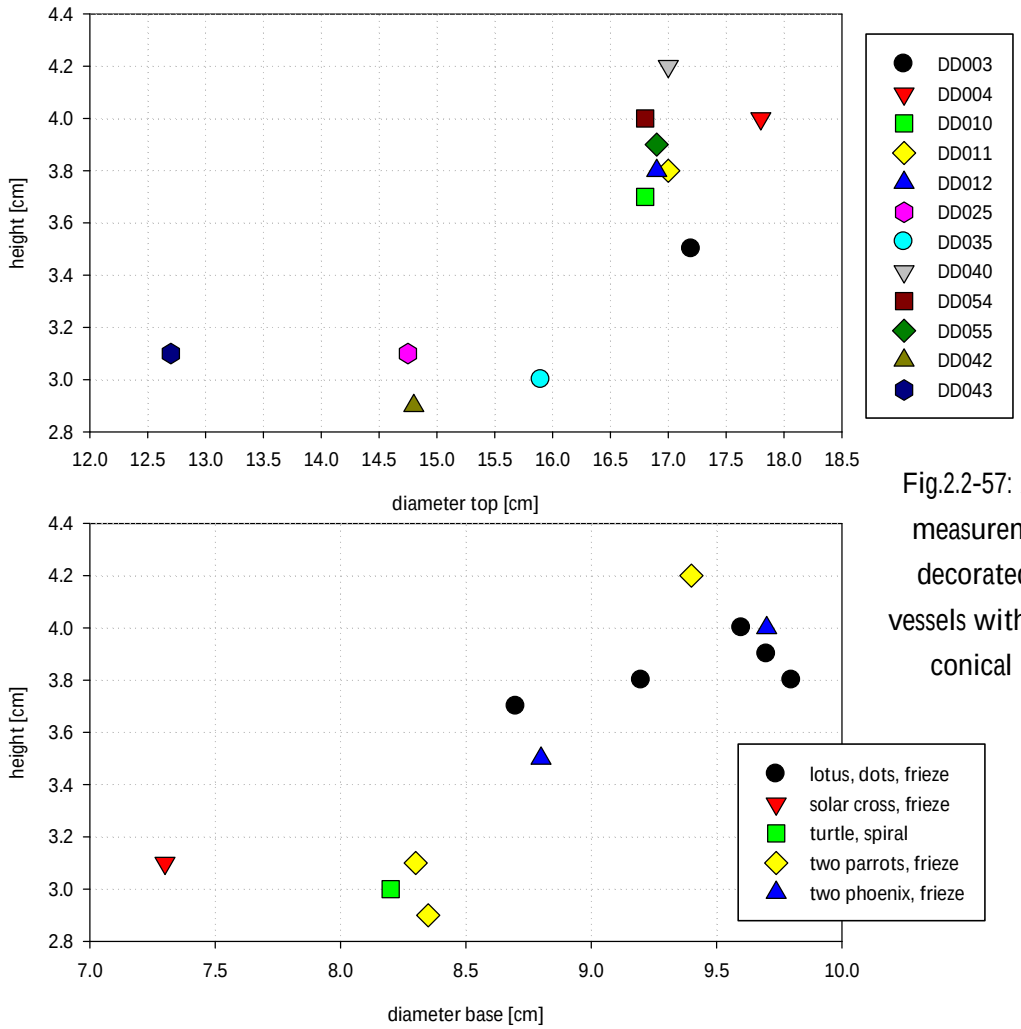
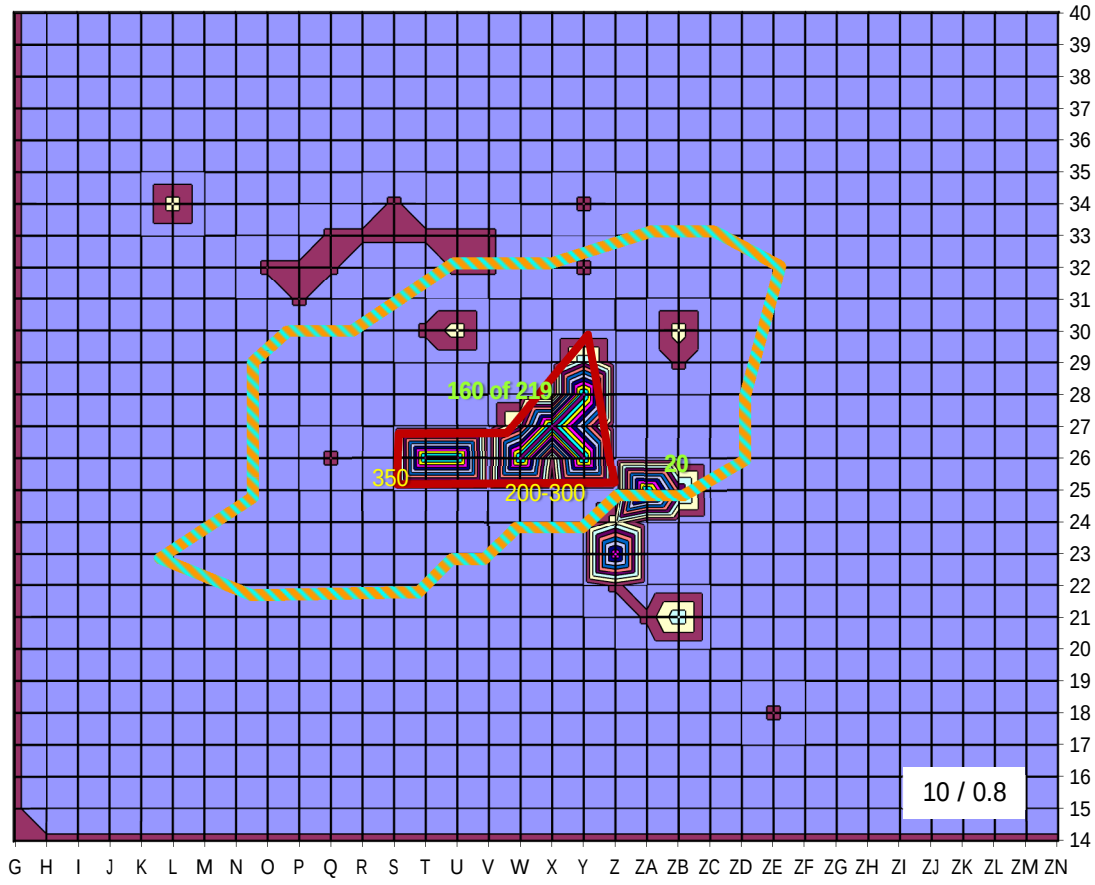


Fig.2.2-57: Available measurements for decorated “open” vessels with a shallow conical profile.



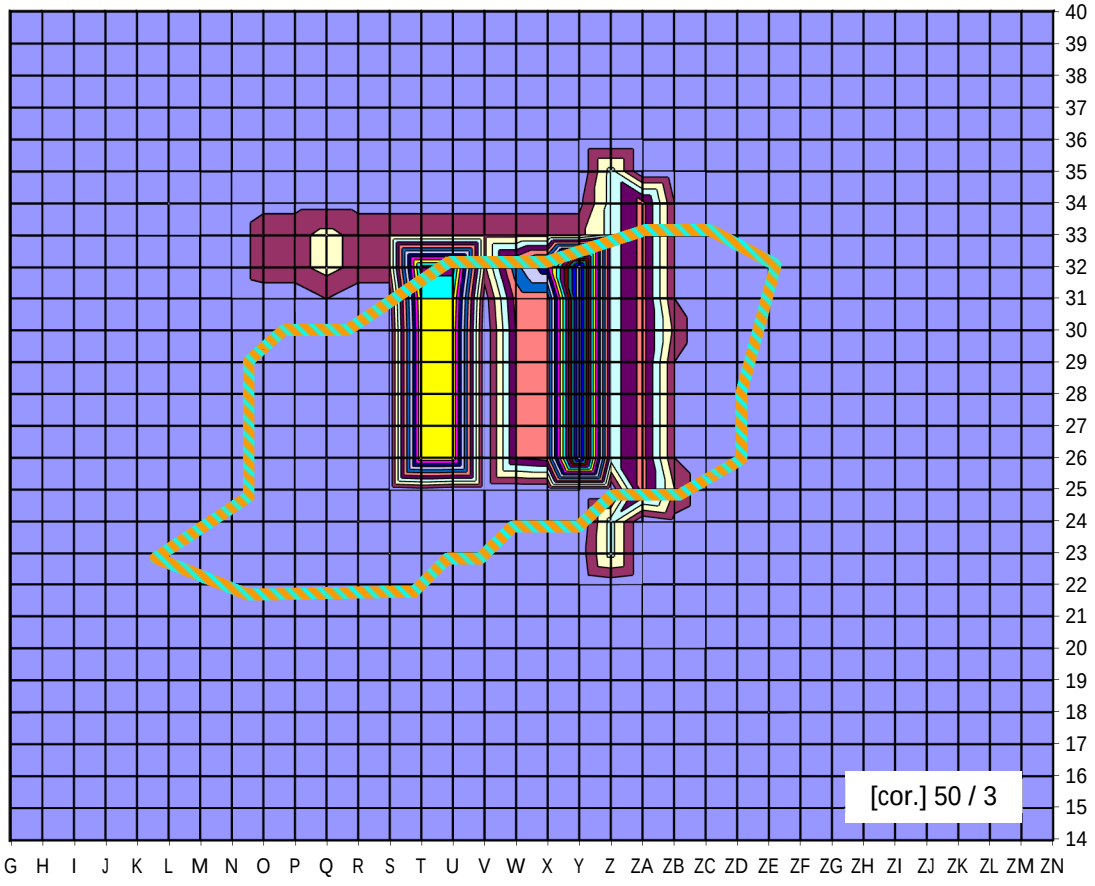


Fig.2.2-58: Distribution of larger sized decorated vessels with a shallow conical profile.

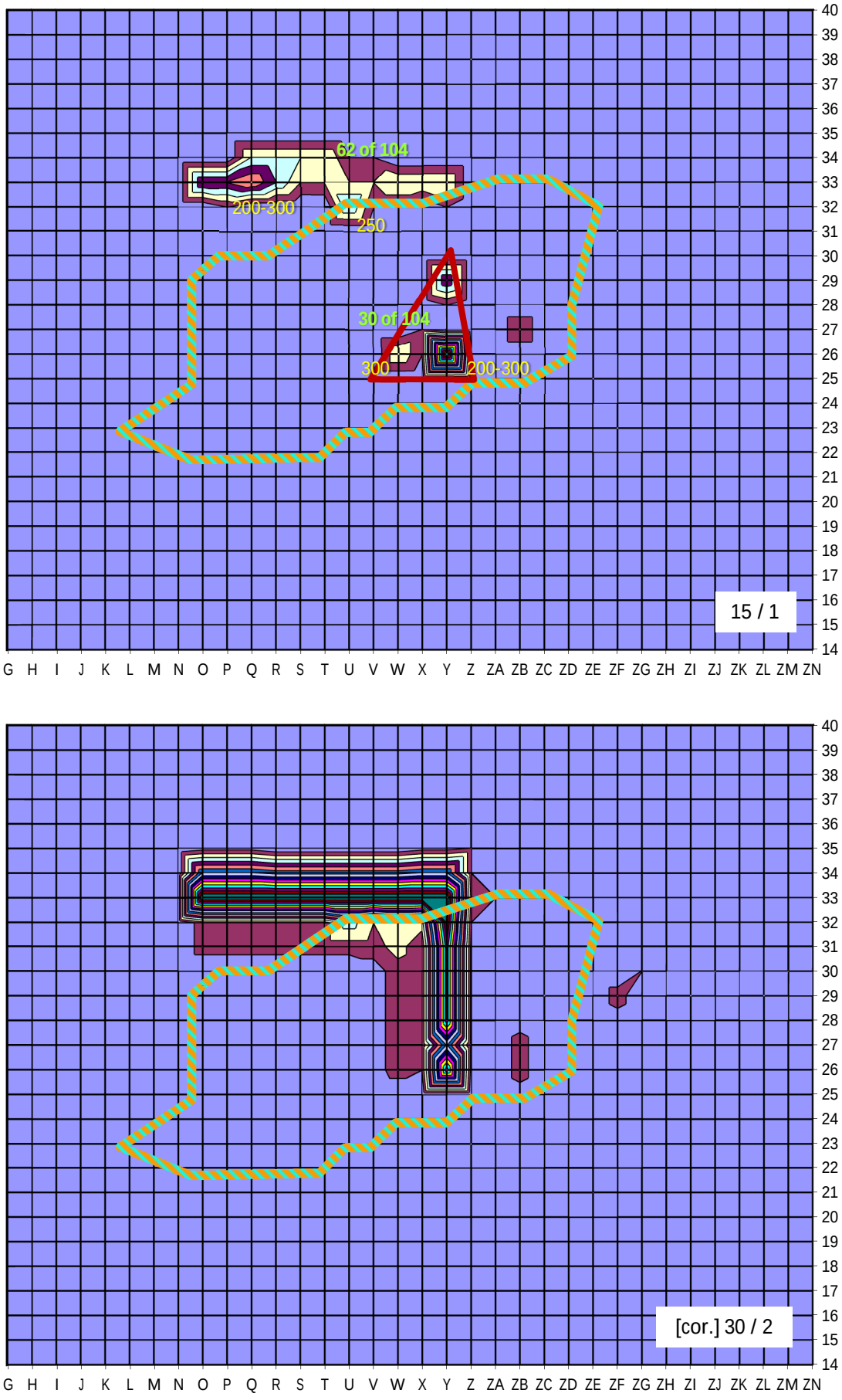


Fig.2.2-59: Distribution of smaller sized decorated vessels with a shallow conical profile.

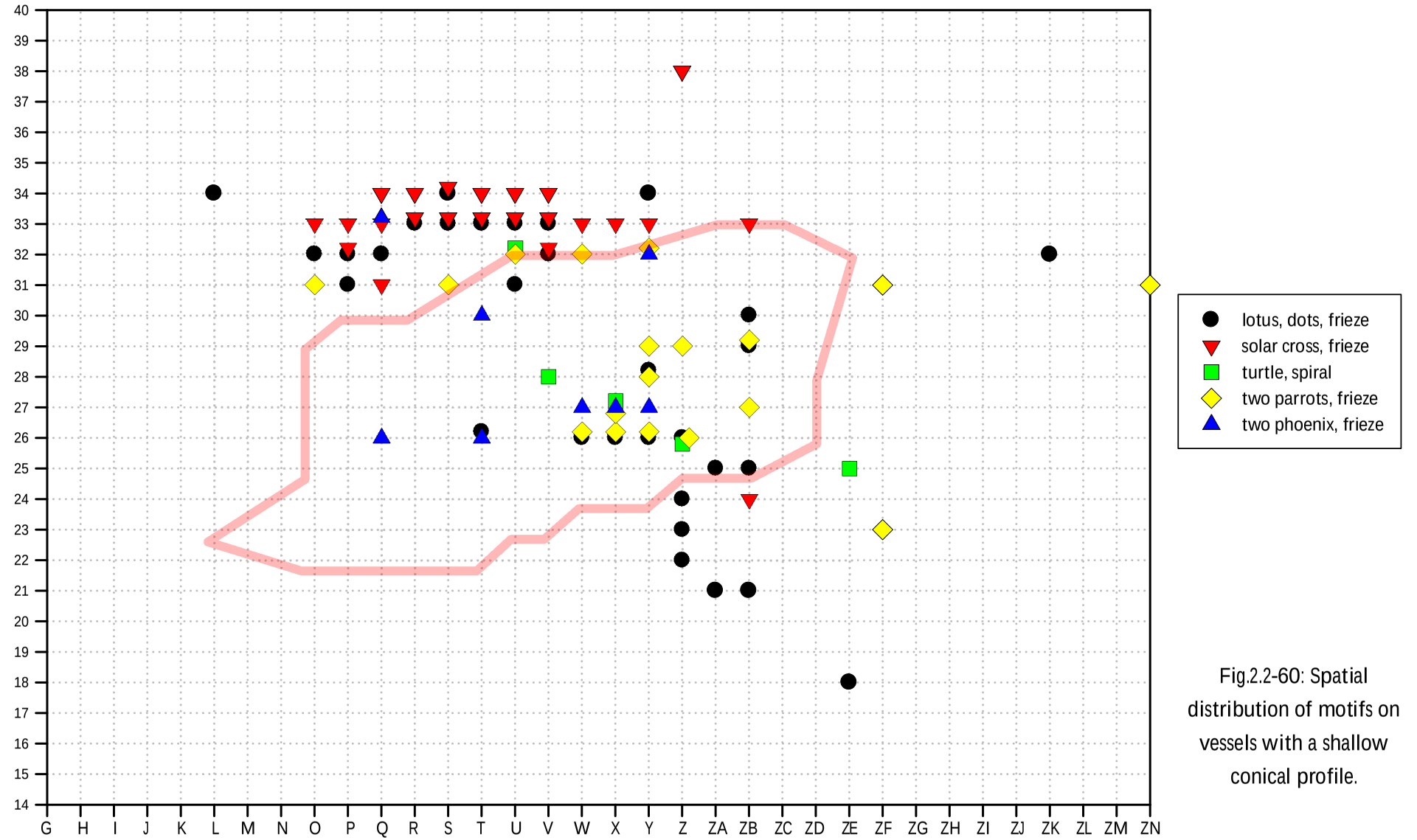
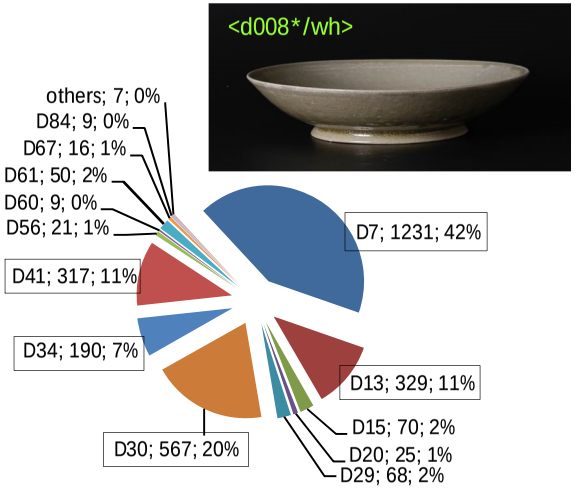
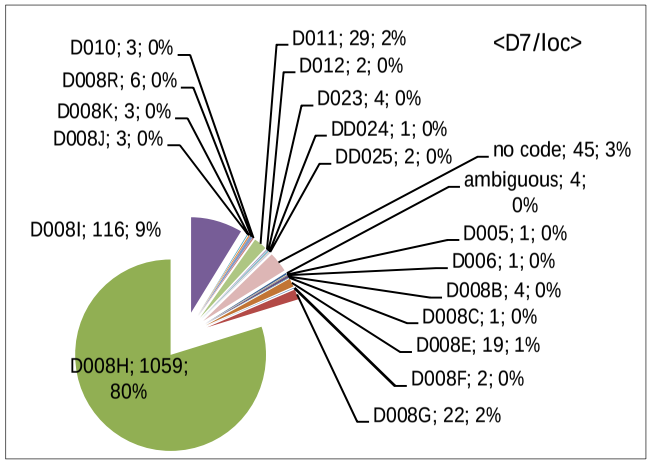
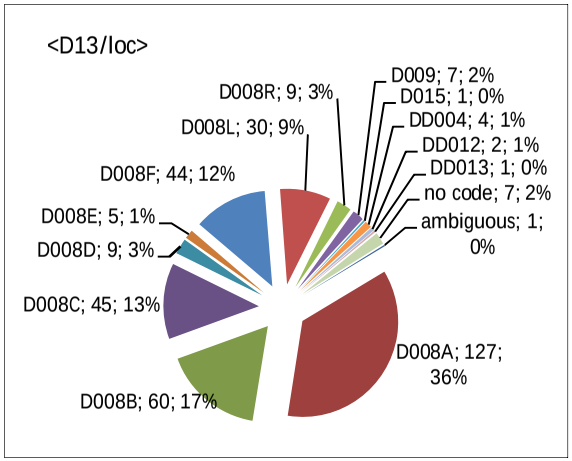
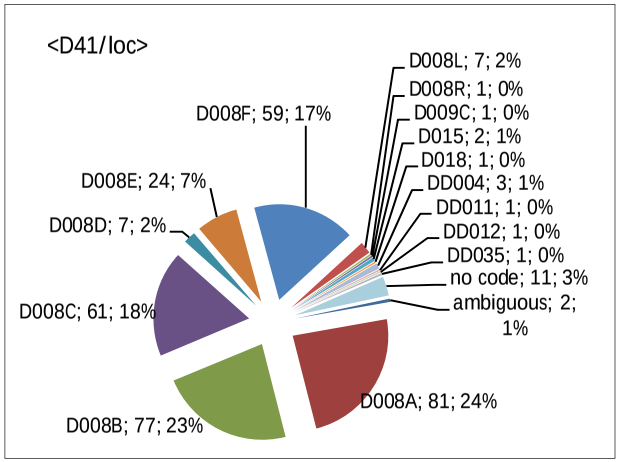


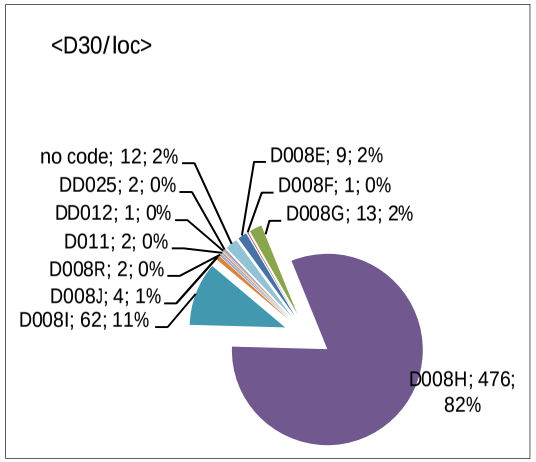
Fig.2.2-60: Spatial distribution of motifs on vessels with a shallow conical profile.











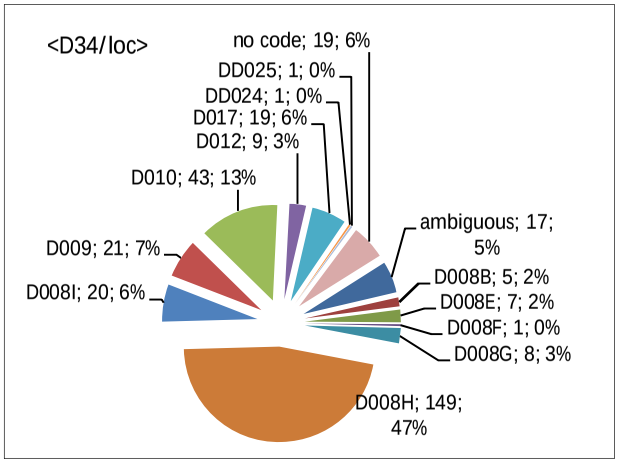
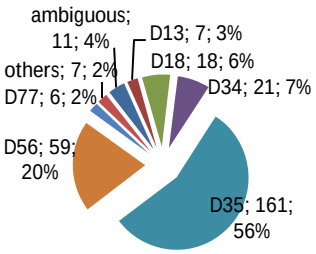
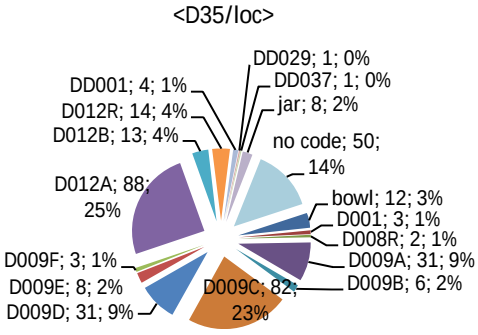
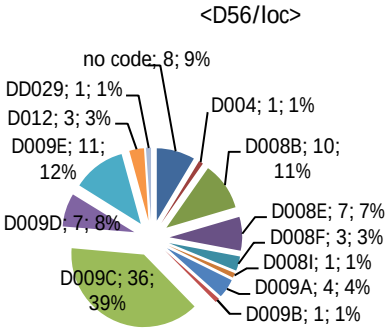


Fig.2.2-61: <D008*/wh> and associated code groups in the <loc> records.







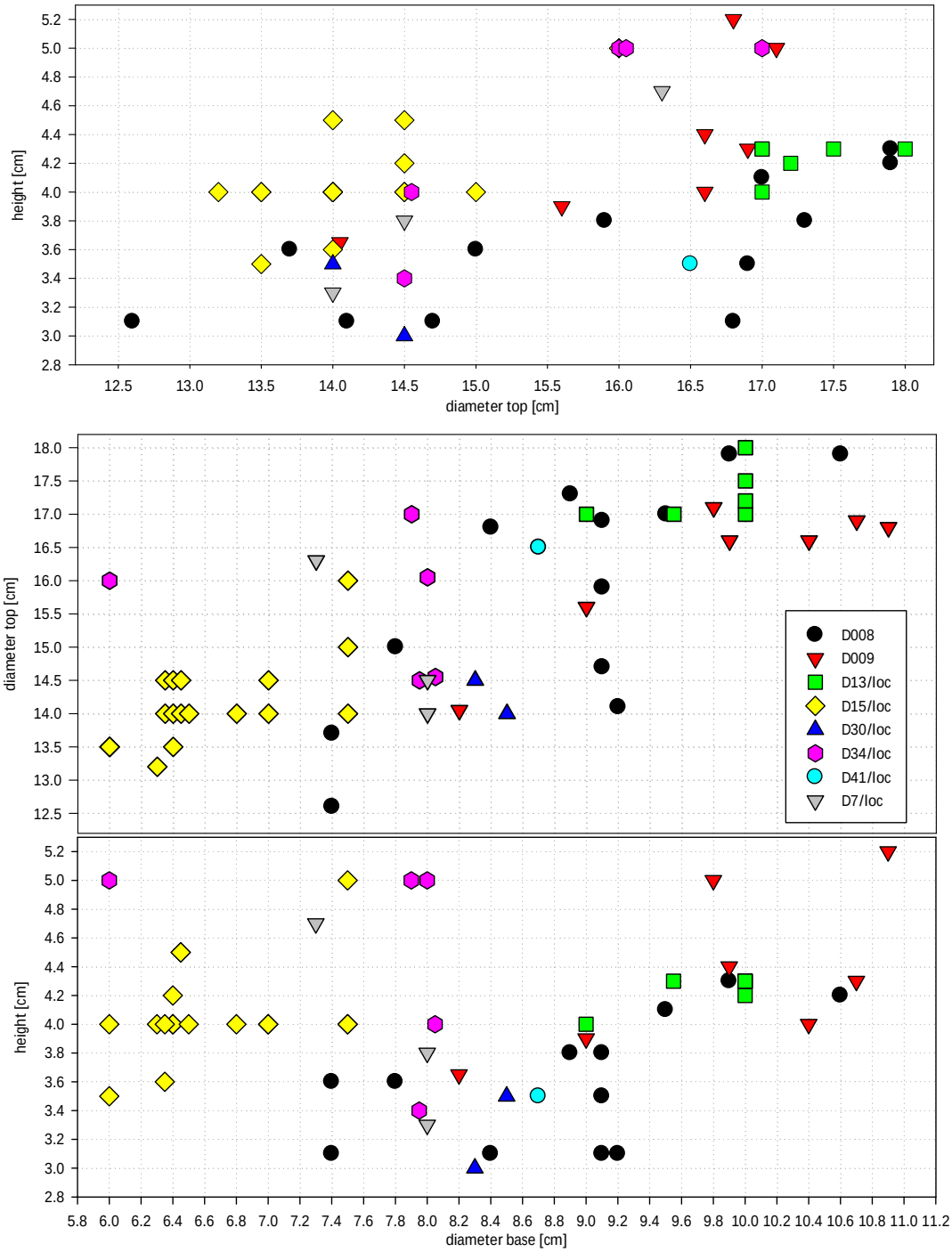
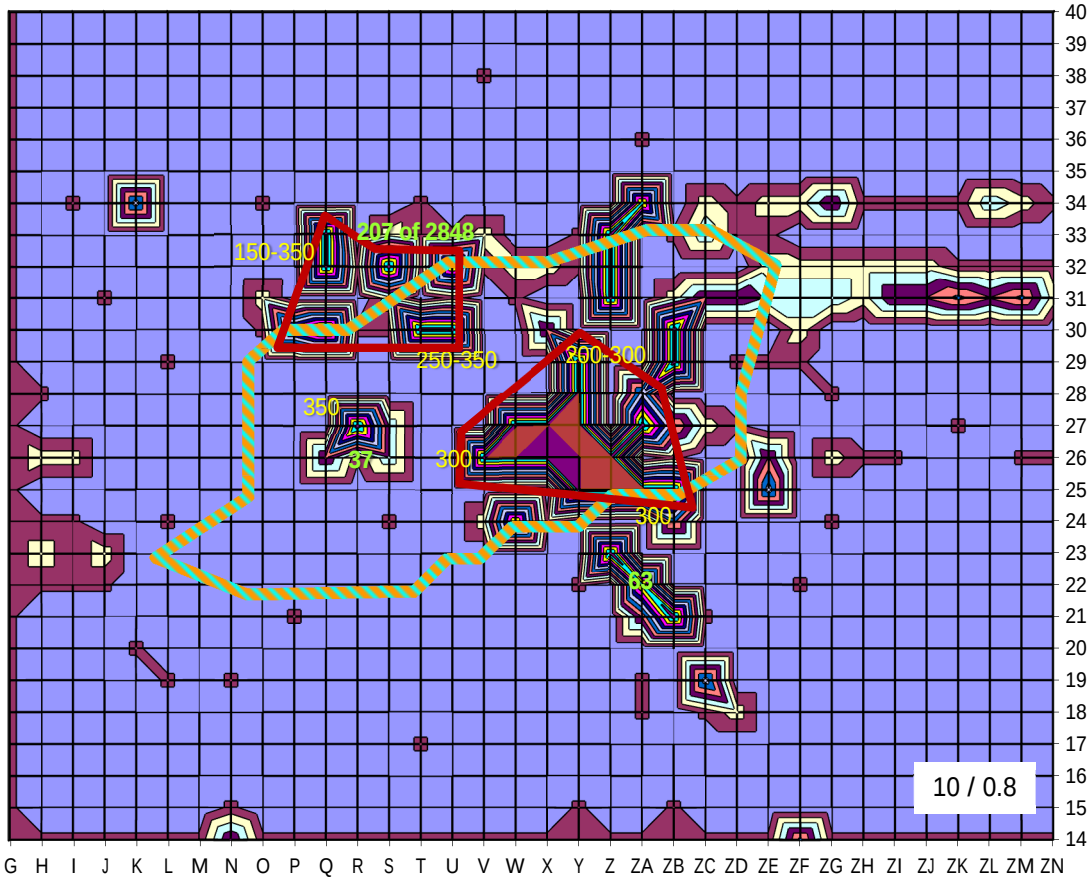


Fig.2.2-63: Measurements of double-cross-checked waregroups in Figs.2.2-61 and -62.



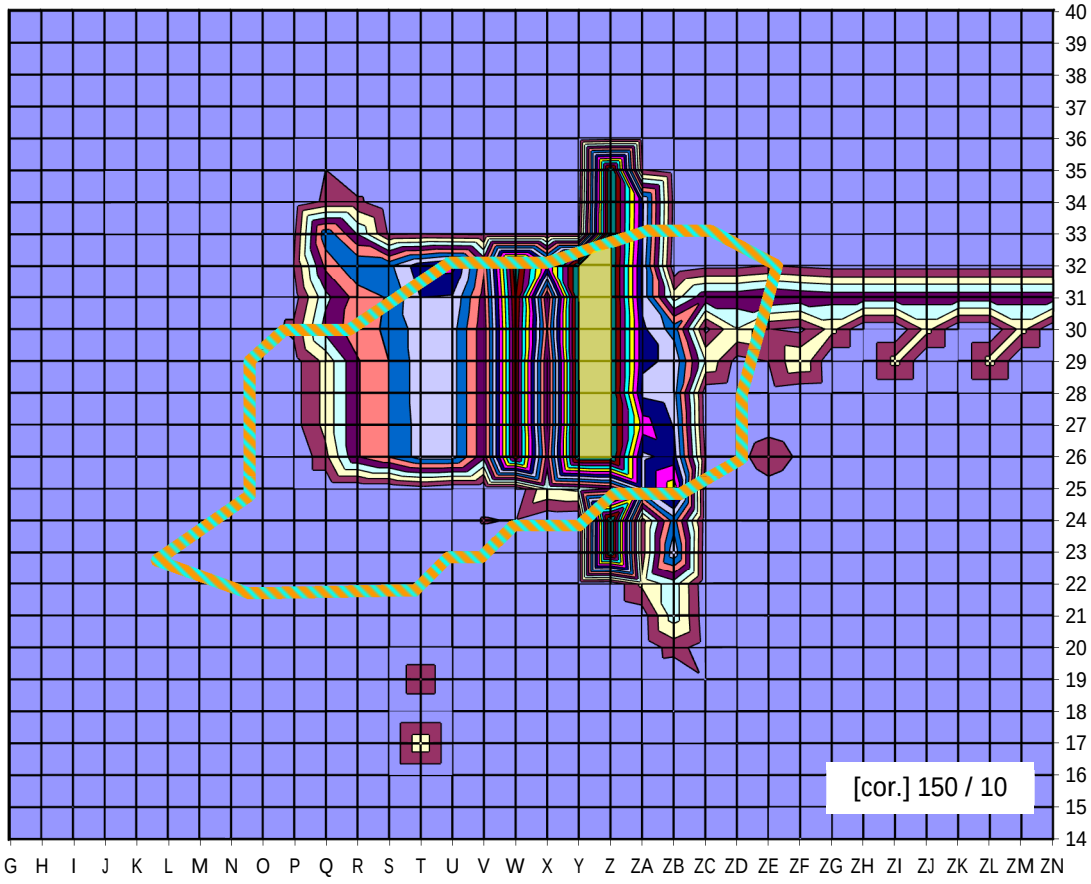


Fig.2.2-64: Distribution of undecorated vessels with a shallow conical profile.

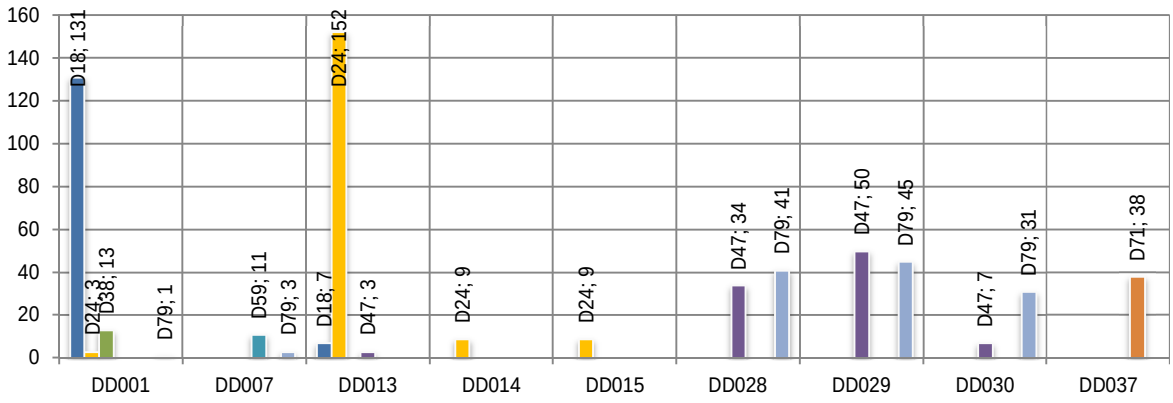


Fig.2.2-65: Shallow decorated bowls with a broad base, <wh> records to main <loc> categorisations.

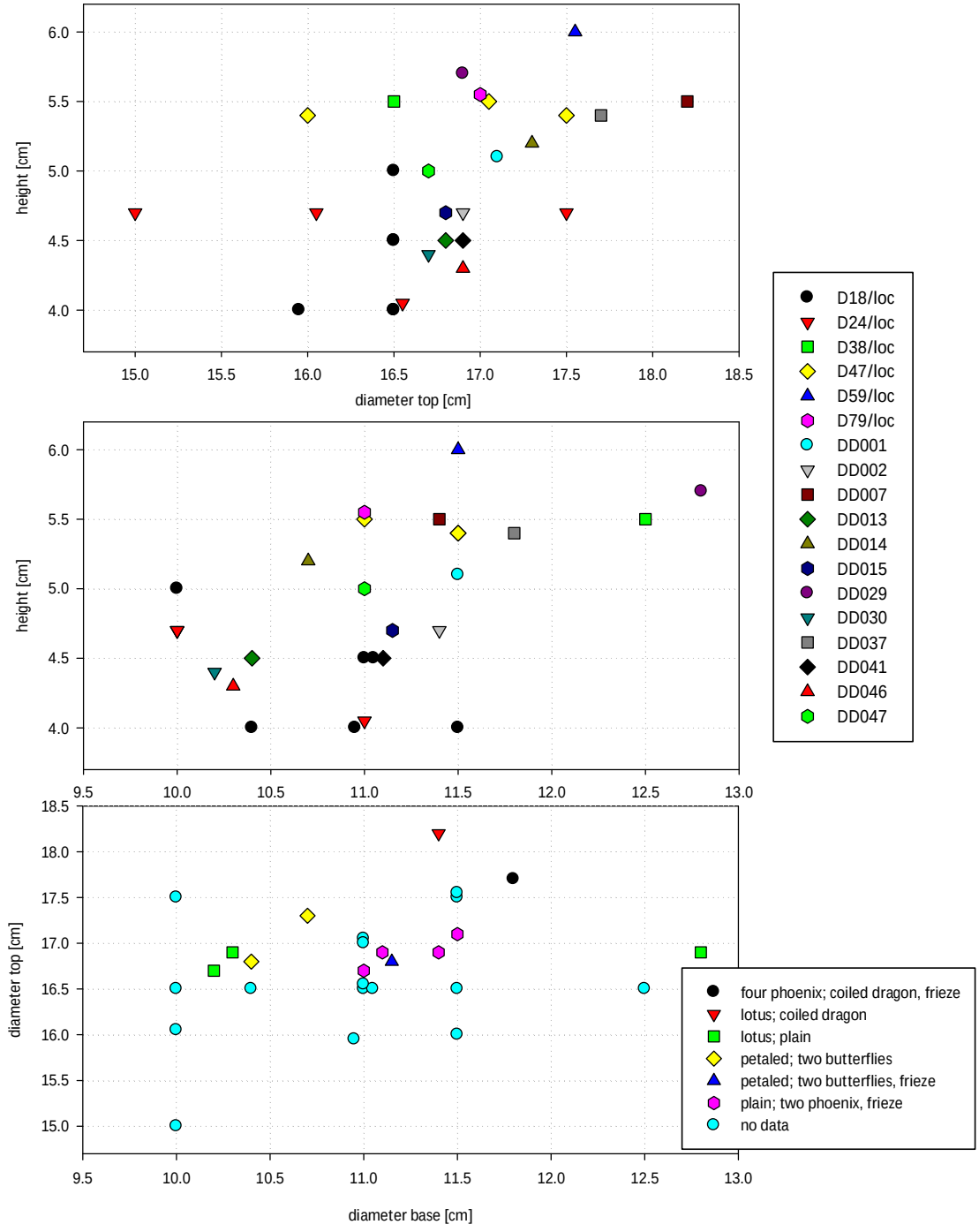


Fig.2.2-66: Confirmable measurements for waregroups in previous figure.

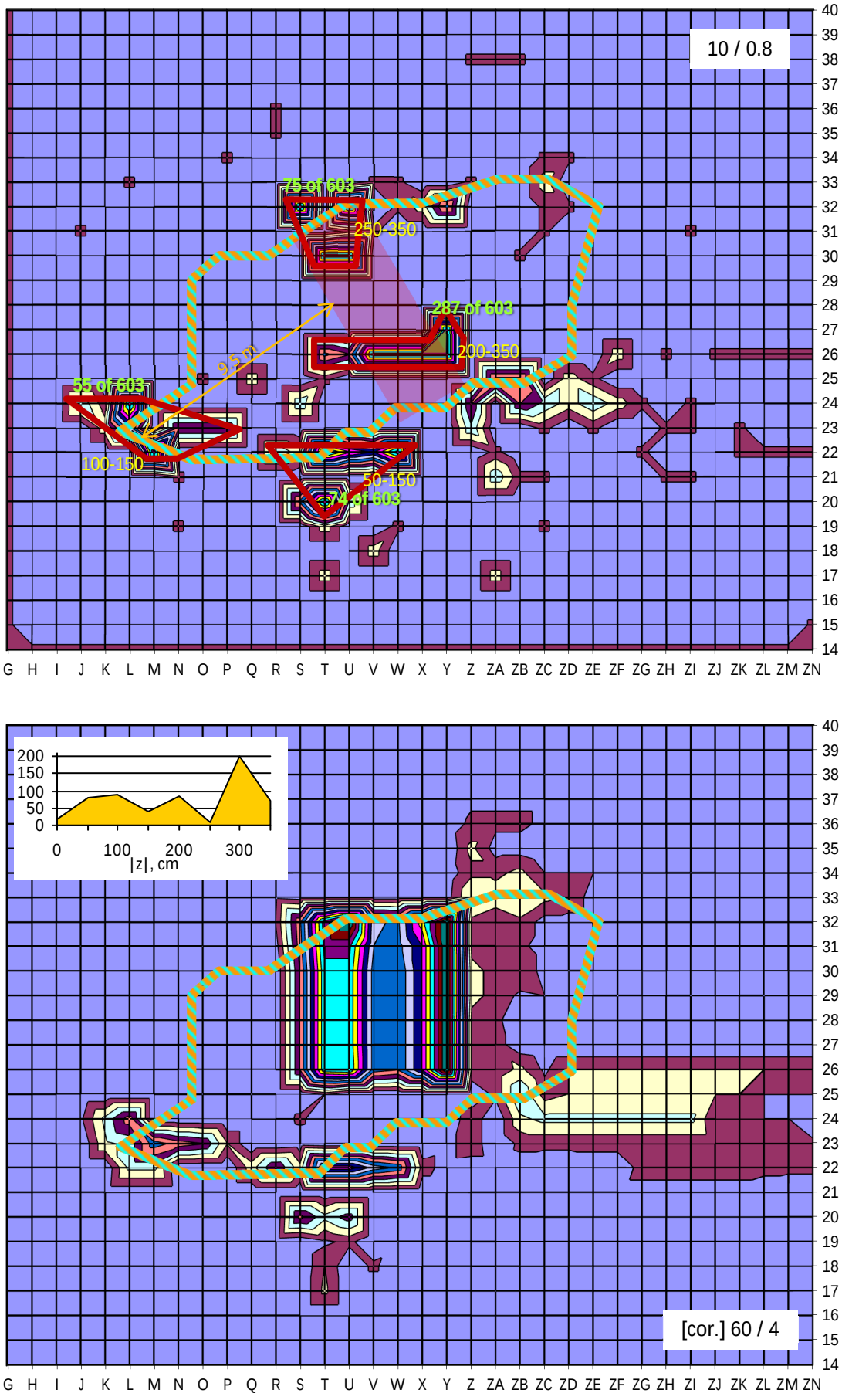


Fig.2.2-67: Distribution of shallow/broad based decorated bowls.

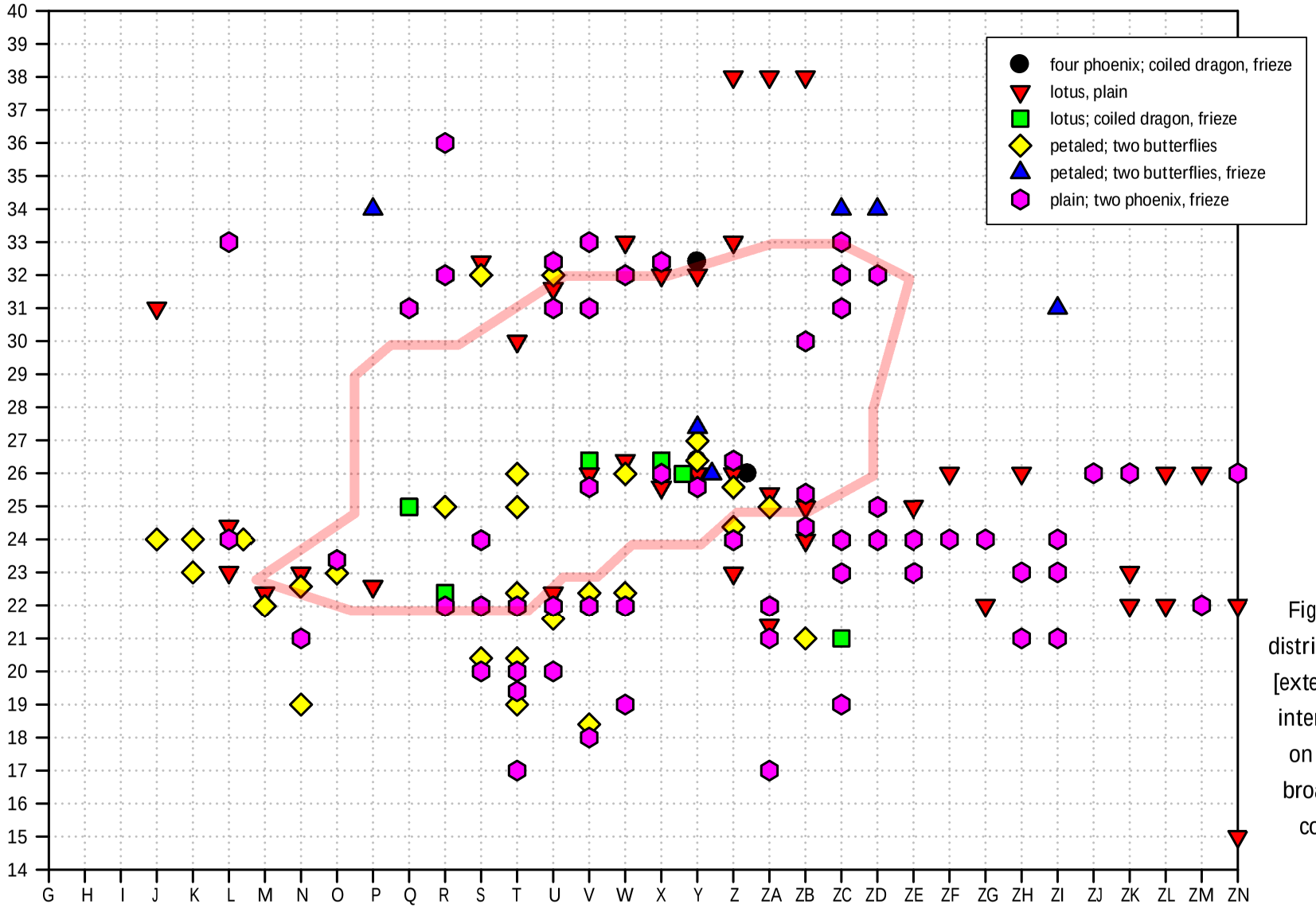


Fig.2.2-68: Spatial distribution of motifs [exterior decoration; interior decoration] on vessels with a broad base and bi-conical profile.

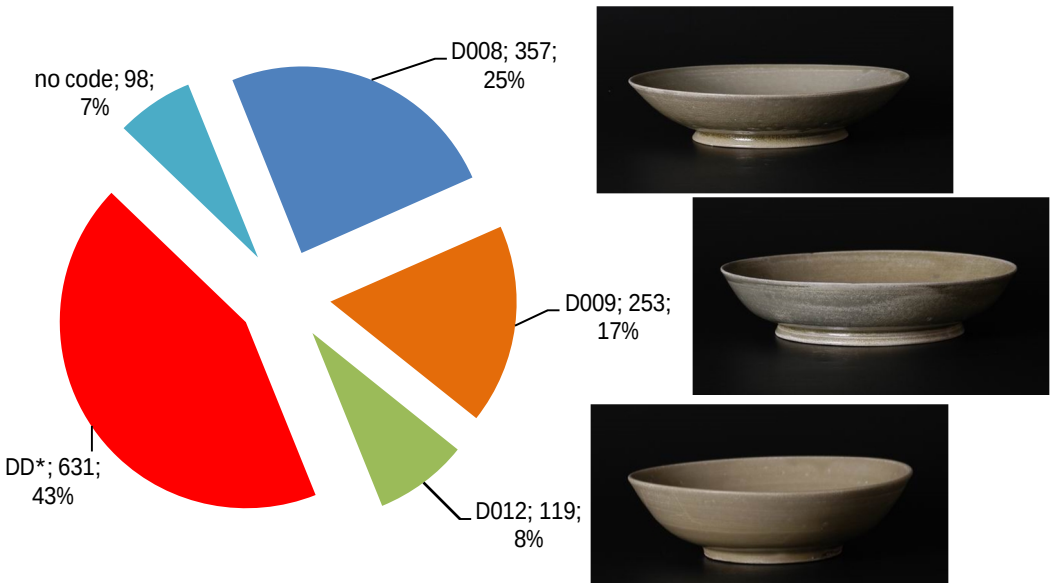


Fig.2.2-69: Double-crosscheck of <wh> records in all <loc> waregroups occurring in relation to "red" group; 54 ambiguous records omitted.

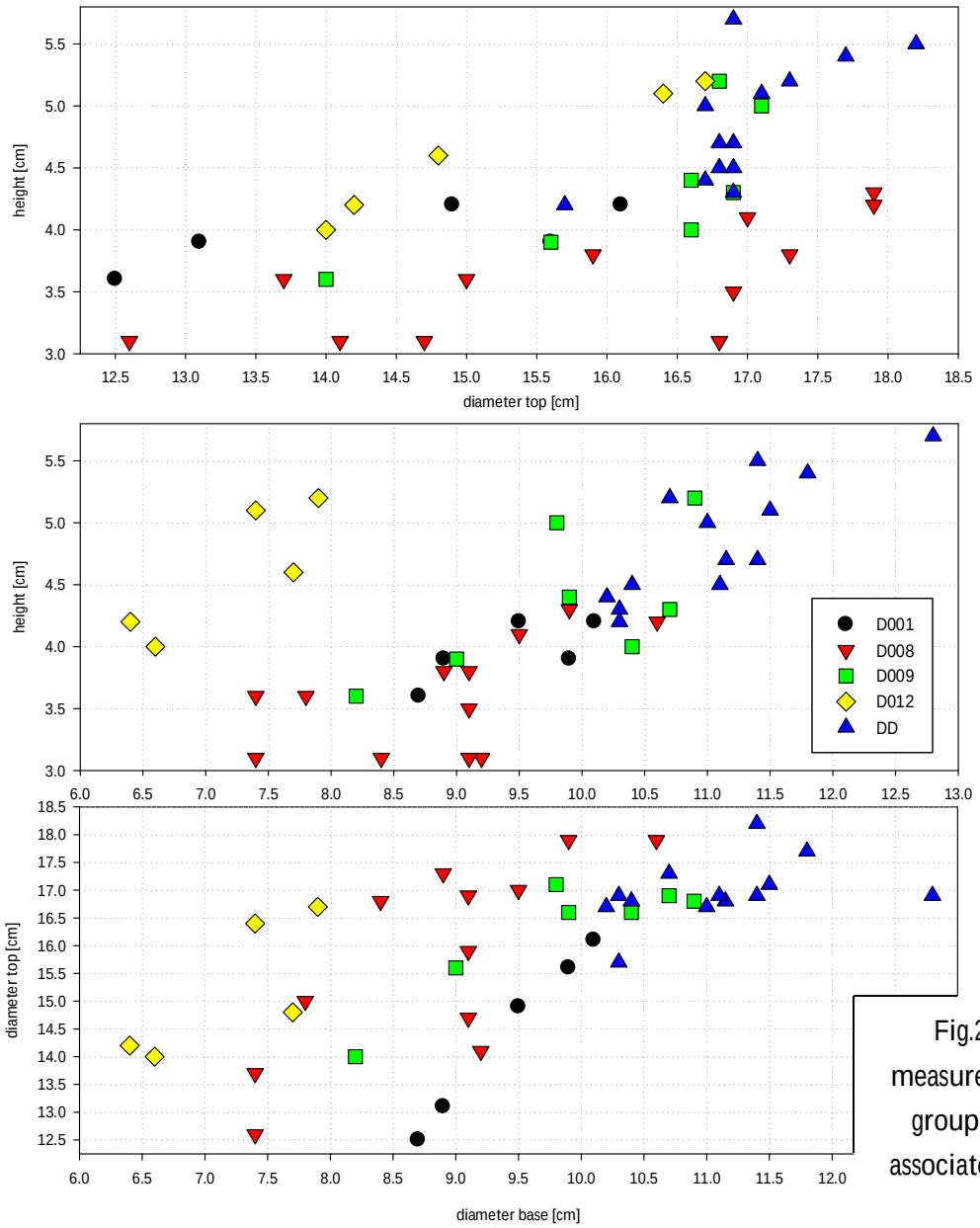


Fig.2.2-70: <wh> measurements of "red" group and possibly associated waregroups.

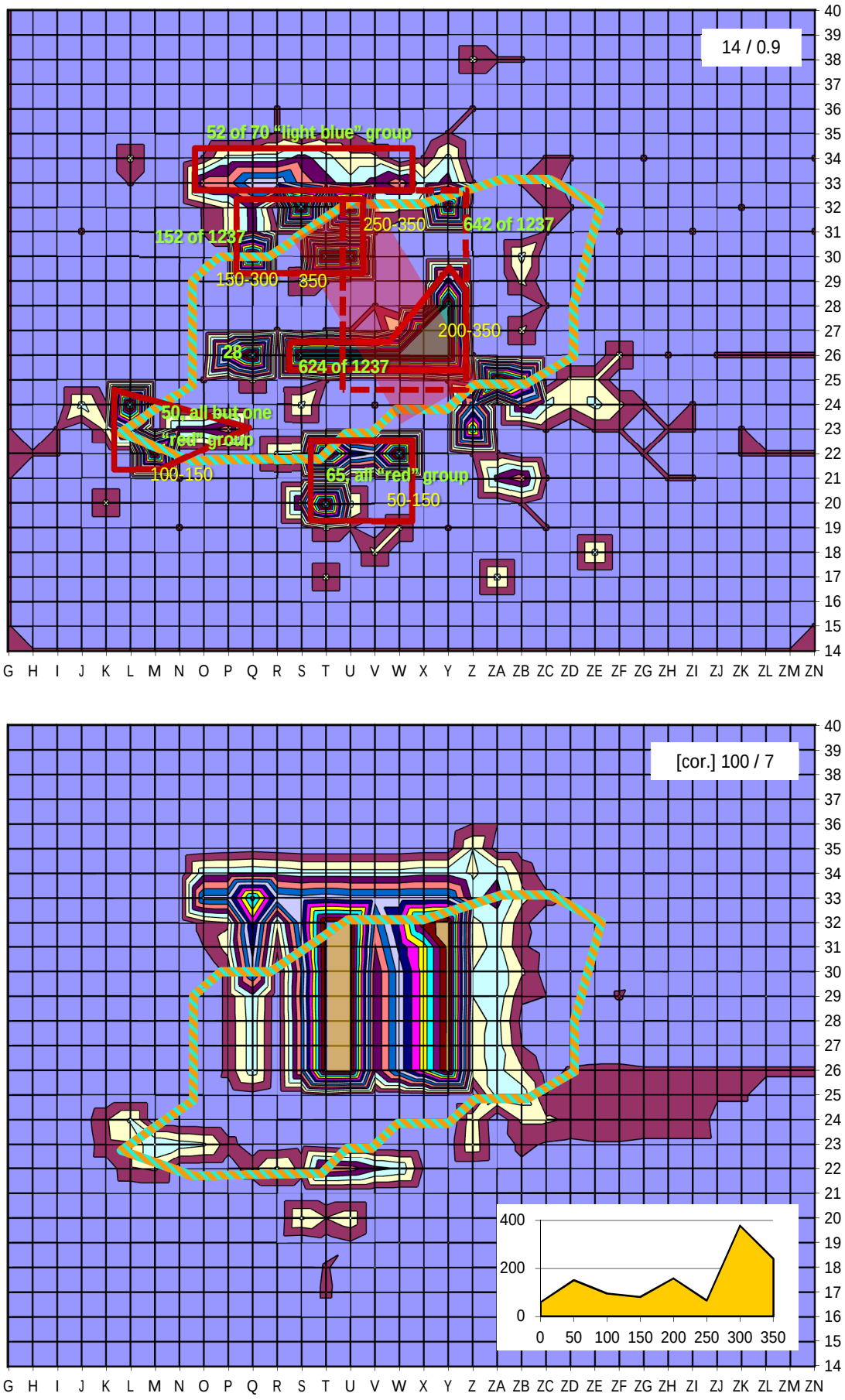


Fig.2.2-71: Distribution of all decorated “open” vessels; |z| values [cm], in yellow; object counts, green.

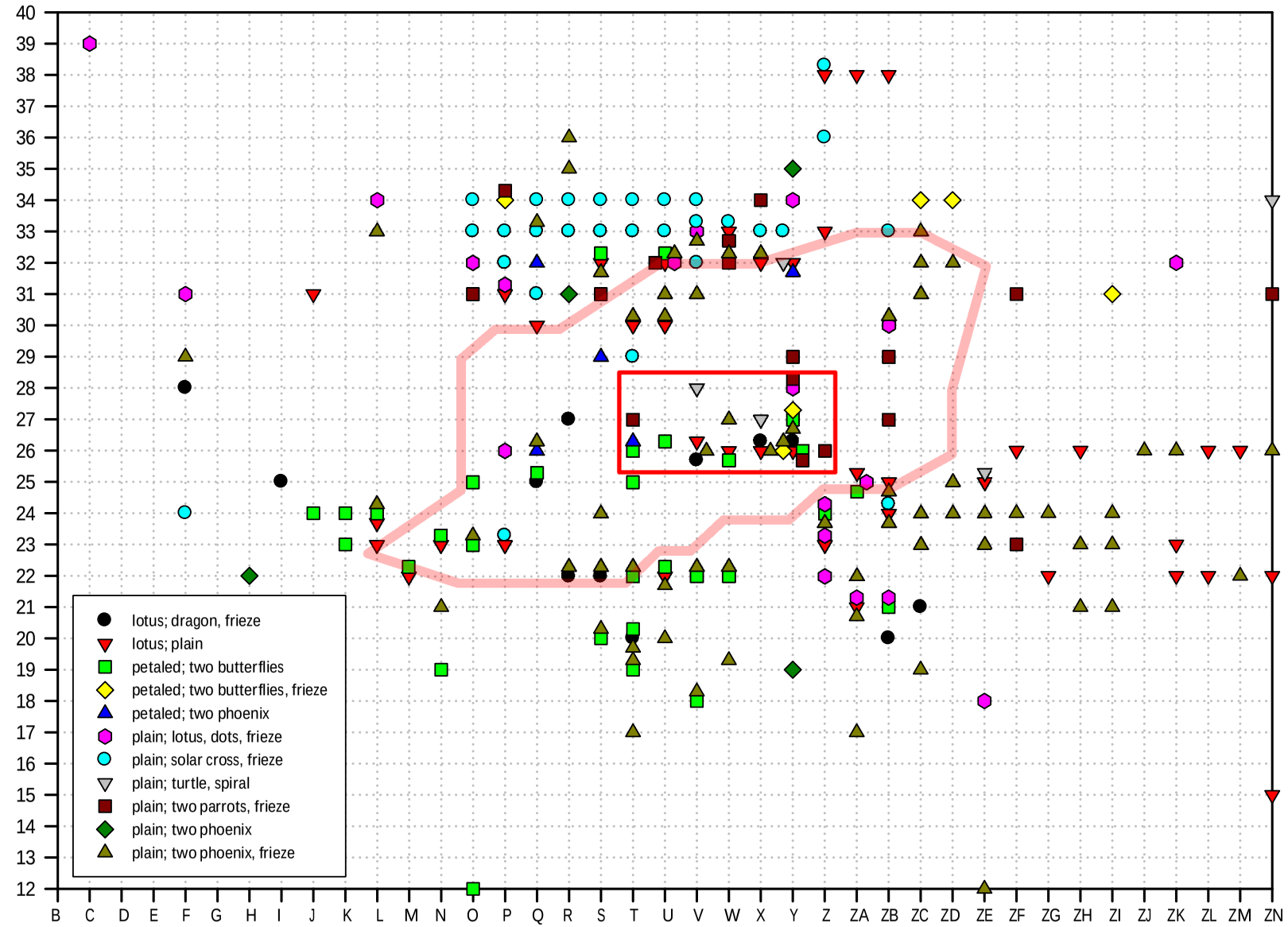


Fig.2.2-72: Distribution of motifs [exterior; interior] on decorated “open” vessels recorded on more than two gridpoints.

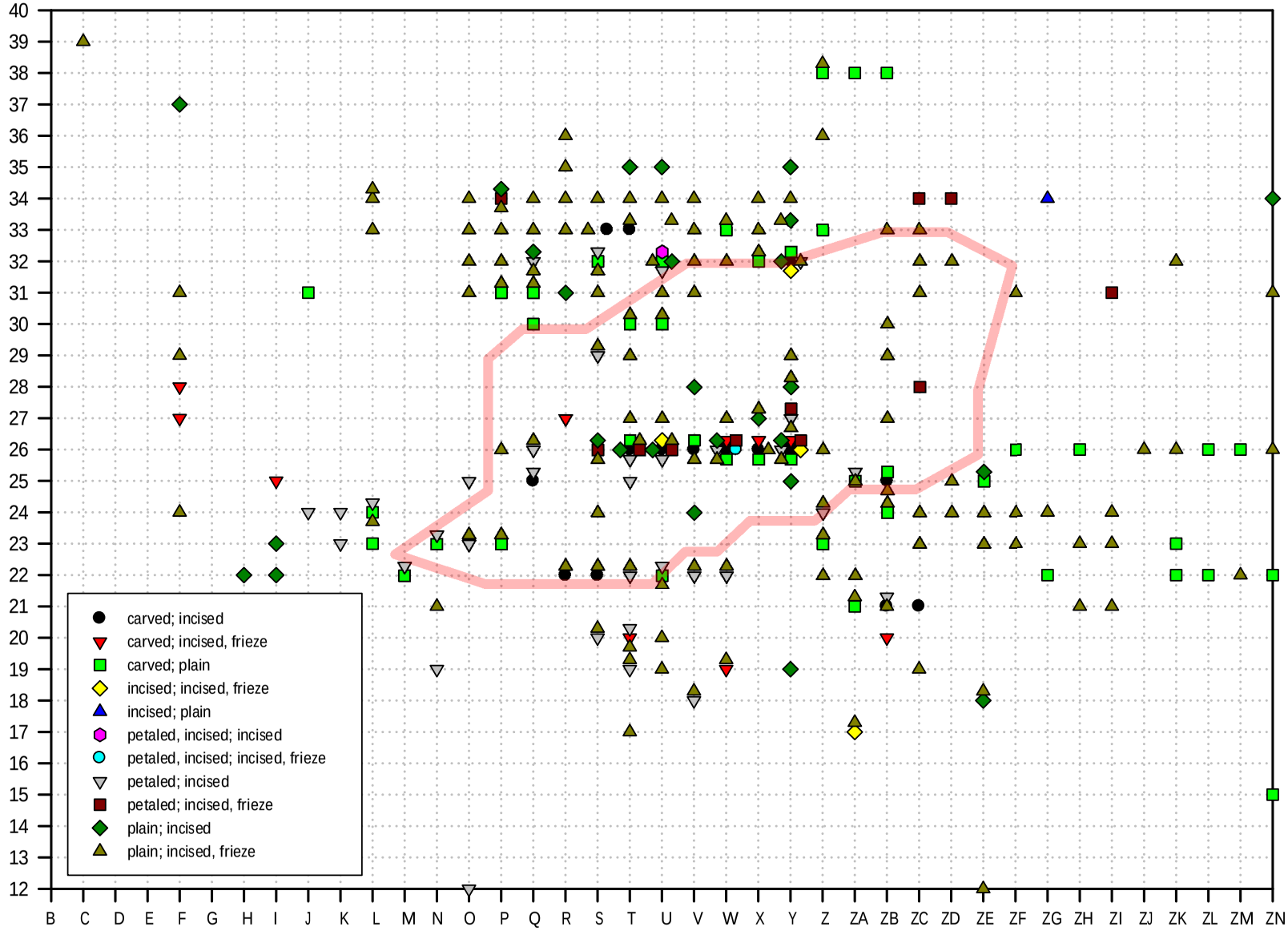


Fig.2.2-73: Distribution of type [exterior; interior] of motifs on decorated "open" vessels.

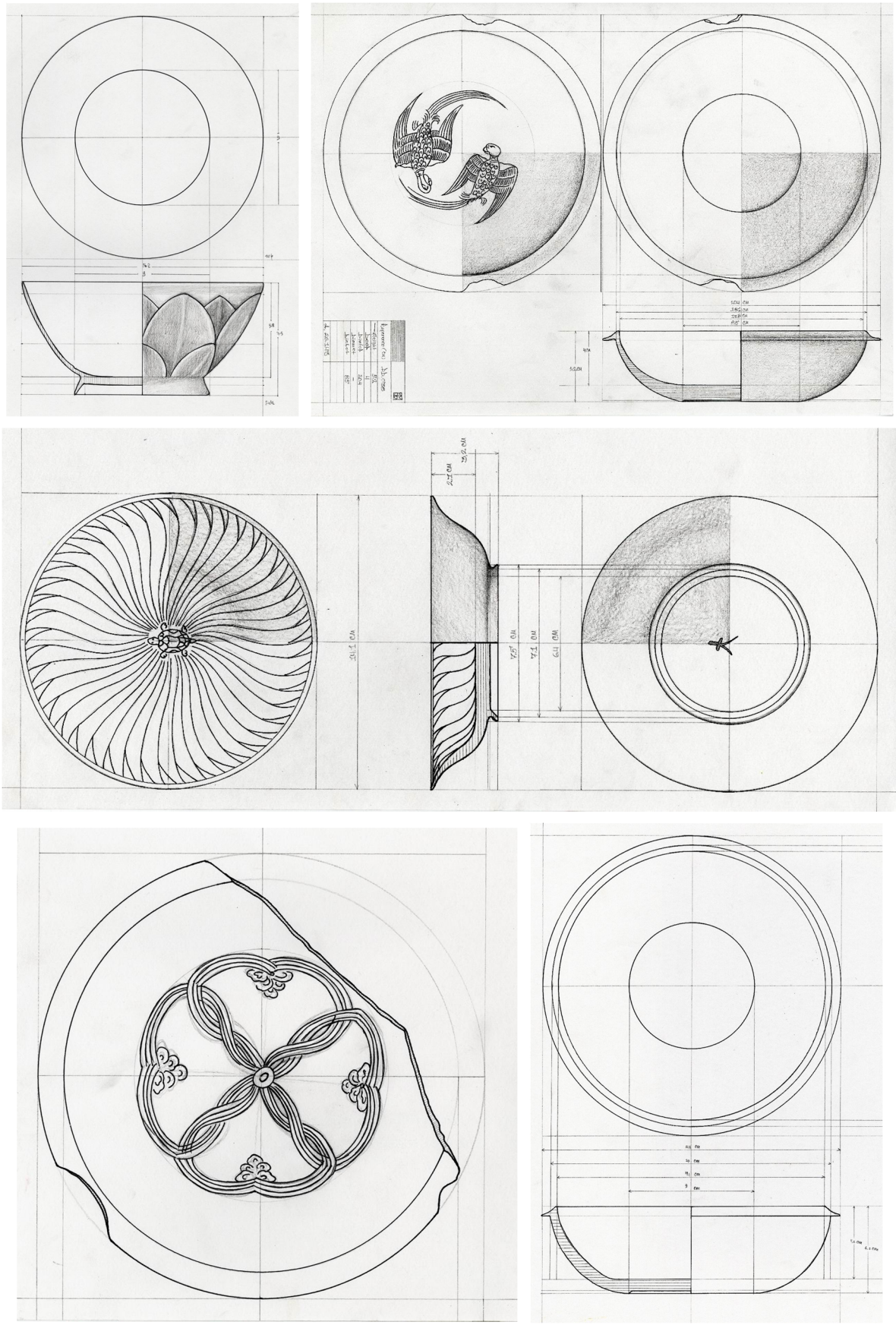


Fig.2.2-74: Examples for vessels with a single decoration. From above left to bottom: <BD016/wh>, 'lotus; plain in Fig.2.2-73, 'carved; plain' in Fig.2.2-74; <DD038/wh>, 'plain; parrots' / 'plain; incised'; <DD036/wh>, 'plain; turtle, spiral' / 'plain; incised'; <DD033/wh>, 'plain; solar cross' / 'plain; incised'.

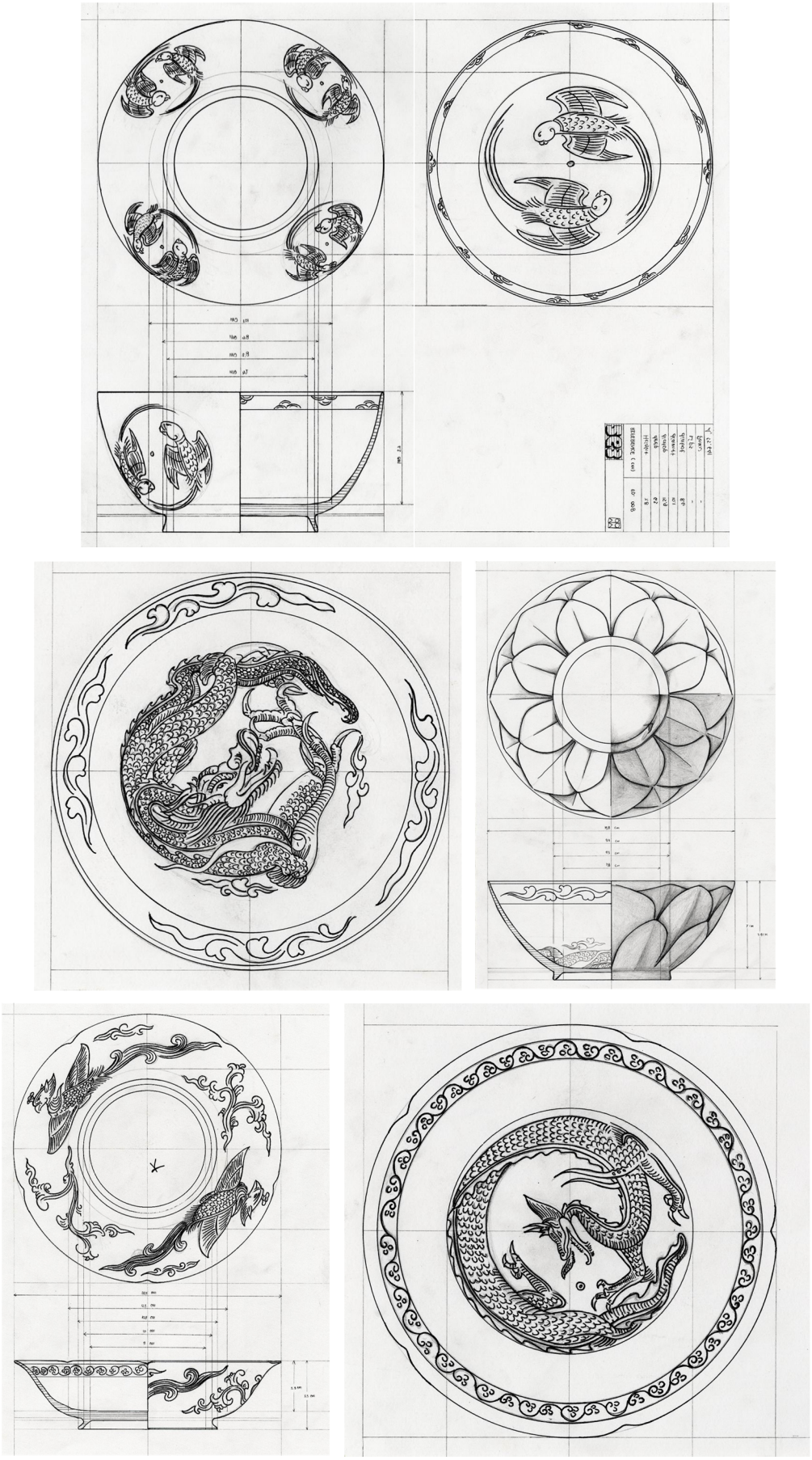


Fig.2.2-75: Examples for vessels with multiple decorations. From above left to bottom: <BD008/wh>, ‘parrots; parrots, frieze’ / ‘incised; incised, frieze’; <BD017/wh>, ‘lotus; dragon, frieze’ / ‘carved; incised, frieze’; <DD008/wh>, ‘phoenix, others; dragon, frieze’ / ‘incised; incised, frieze’.

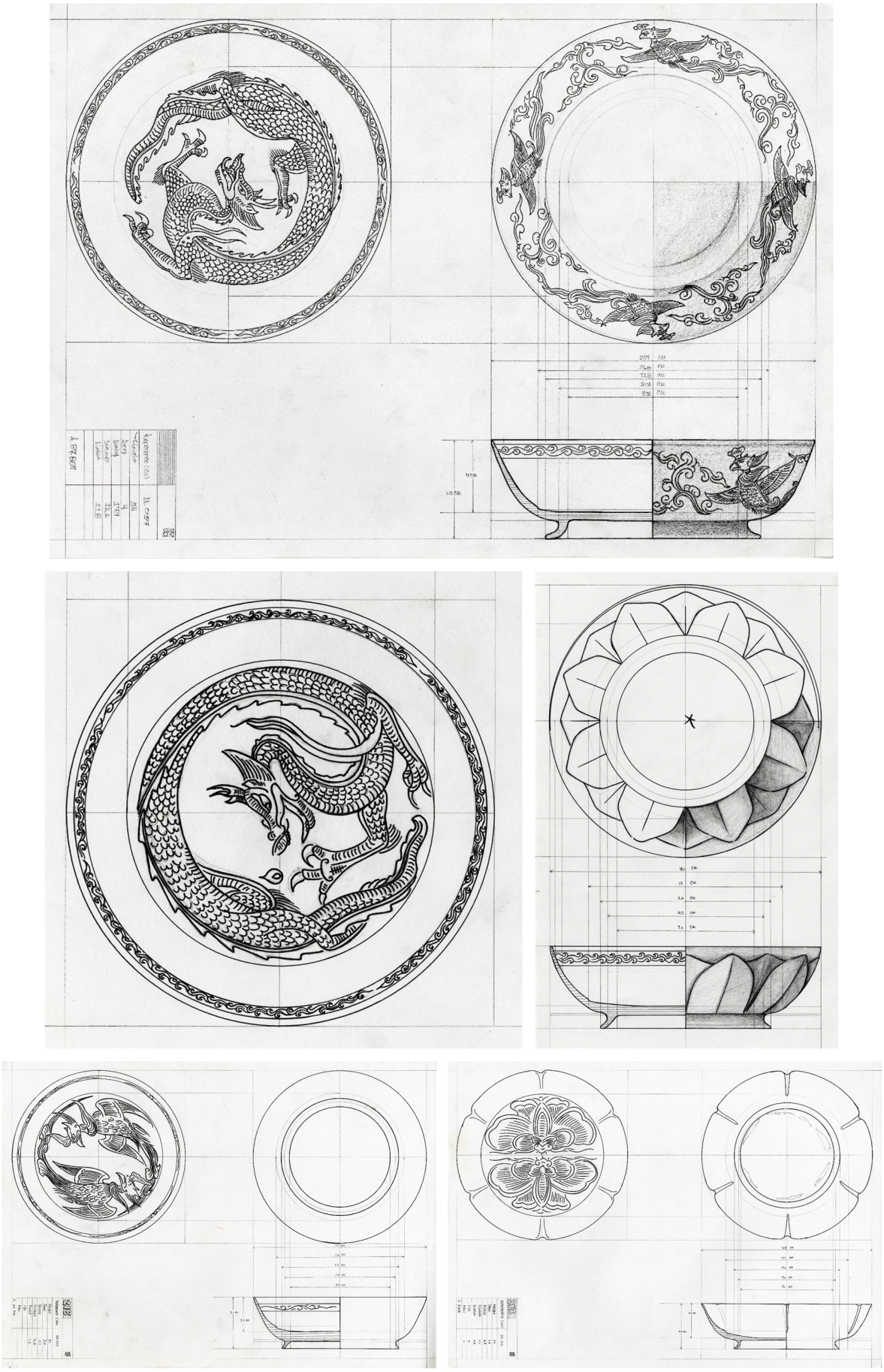


Fig.2.2-76: Line drawings of, from top to bottom right, <DD037/wh>, <DD007/wh>, <DD001/wh> and <DD013/wh>.

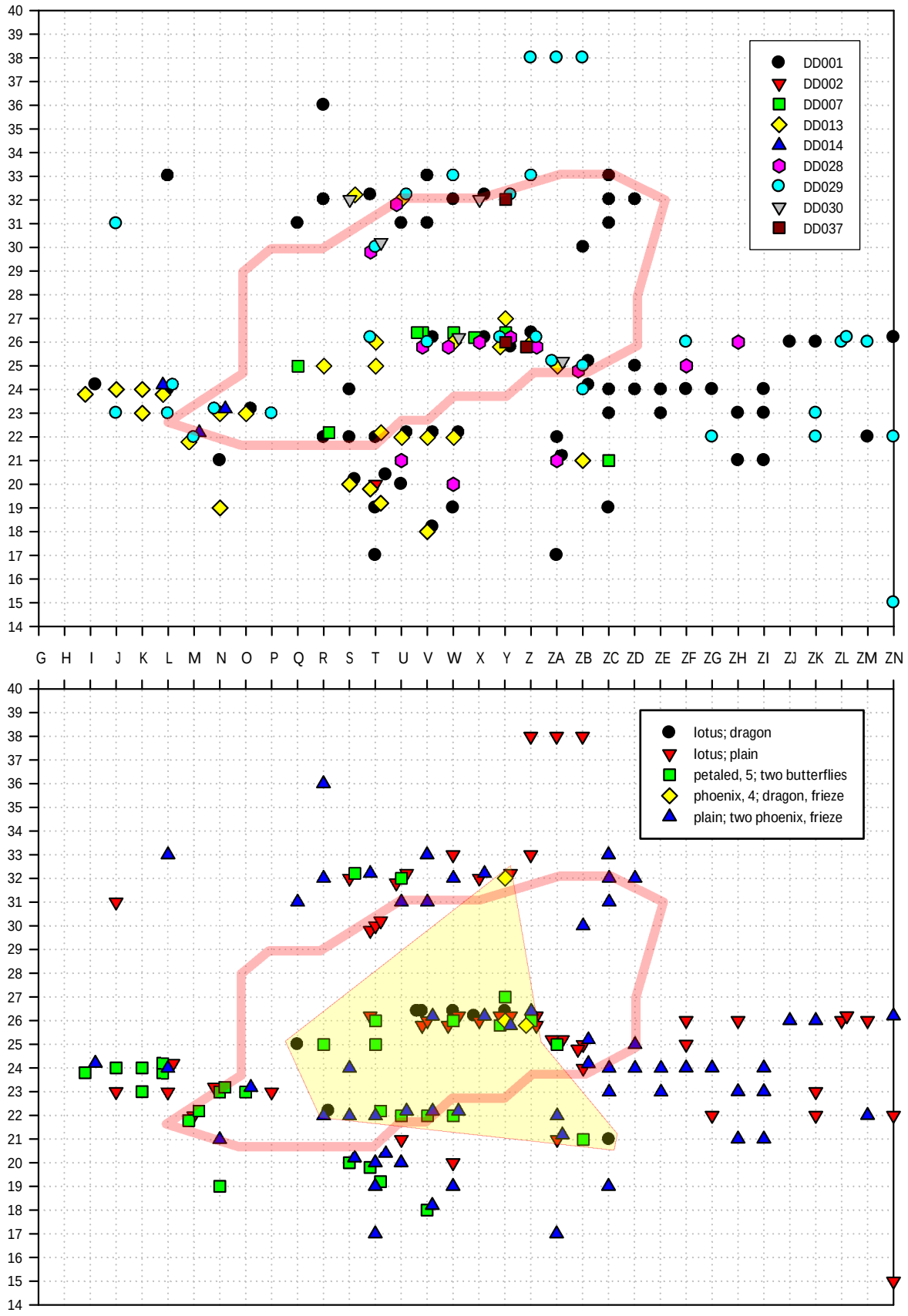


Fig.2.2-77: Distribution plots for shallow/broad based decorated bowls per <wh> waregroups (above) and motifs (below; [exterior; interior]). Furthest spread of vessels with decorations on both ex- and interior shaded in yellow.

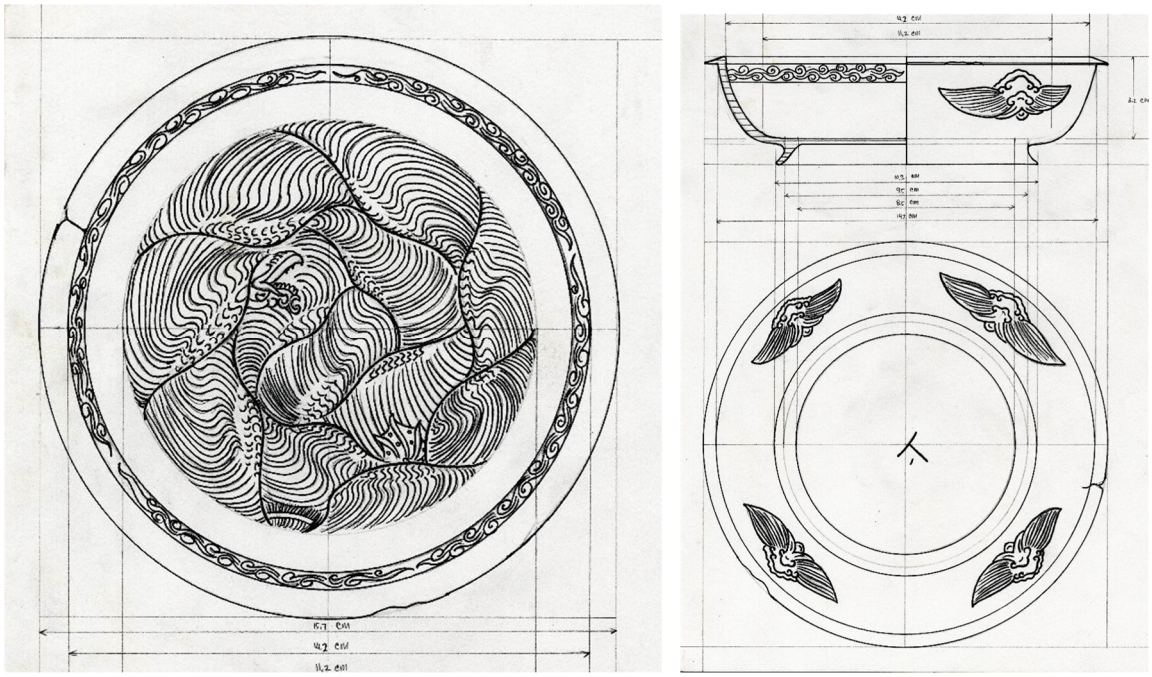
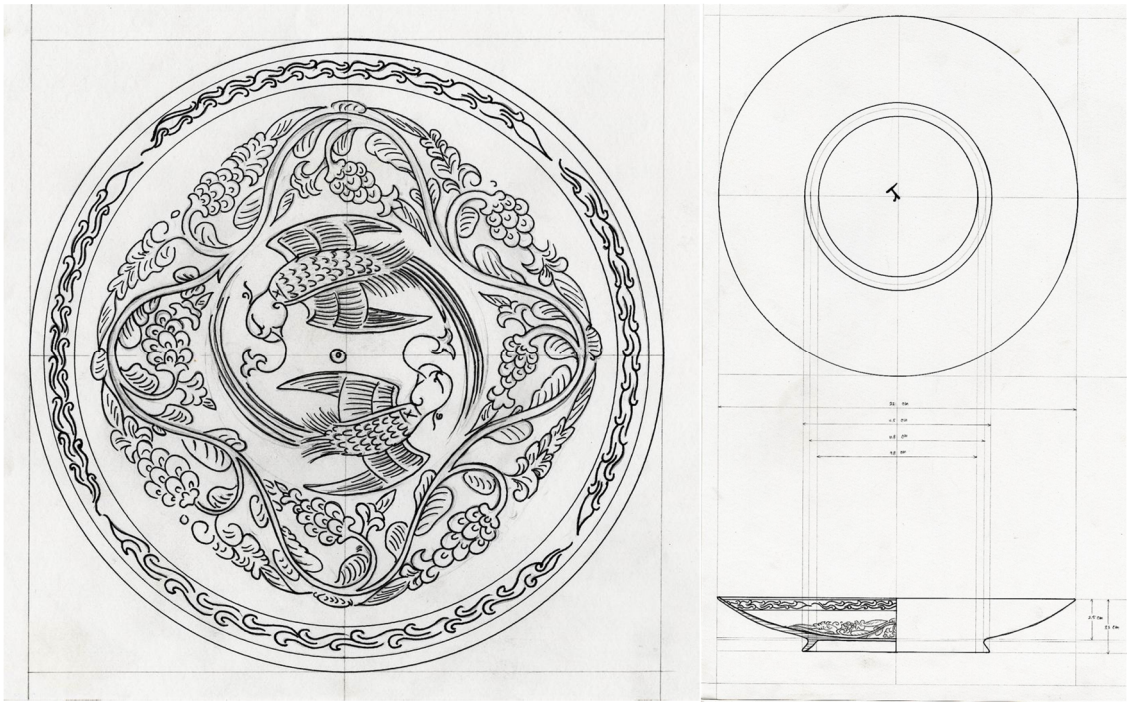
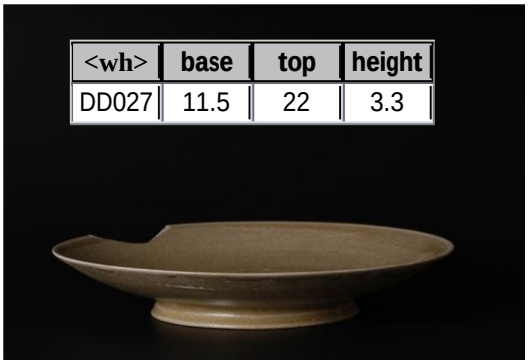


Fig.2.2-78: Line drawing of <DD024/wh>; note the *liong* snake bathing in the waters.



<wh>	base	top	height
DD027	11.5	22	3.3



<wh>	base	top	height
D021	11.2	21.5	3.7

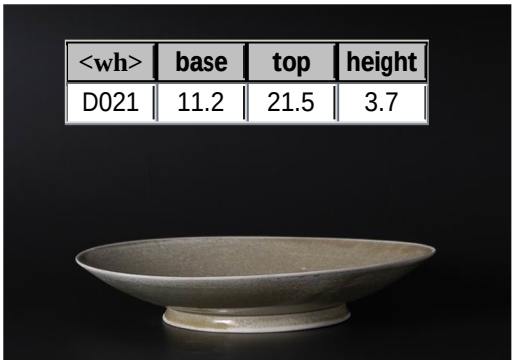


Fig.2.2-79: Line drawing, example photos and measurements of <DD027/wh> and <D021/wh>.

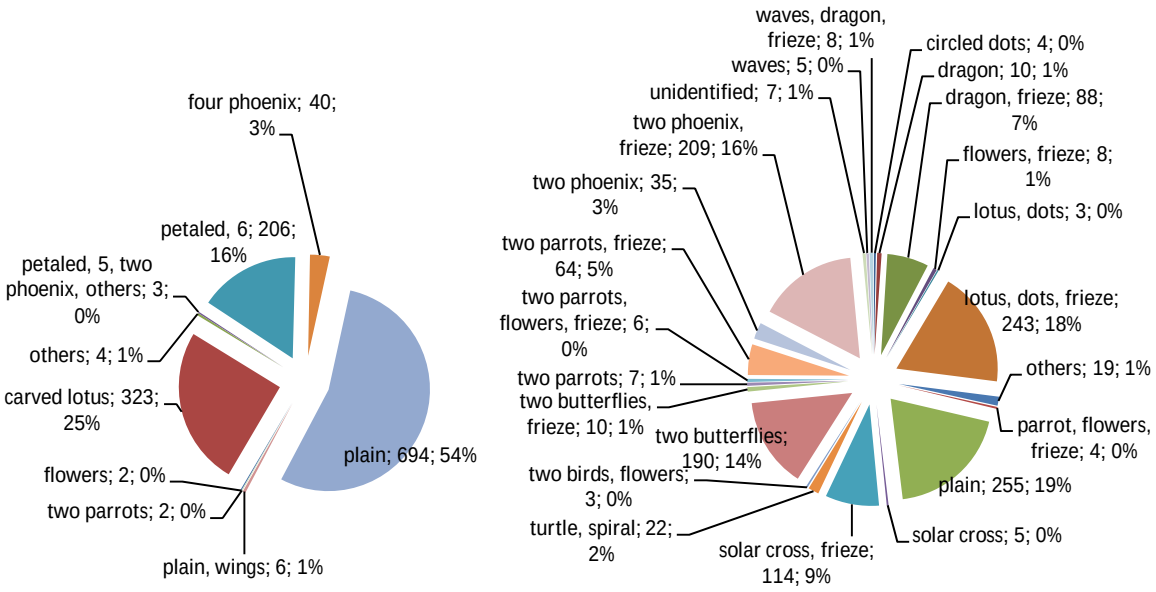
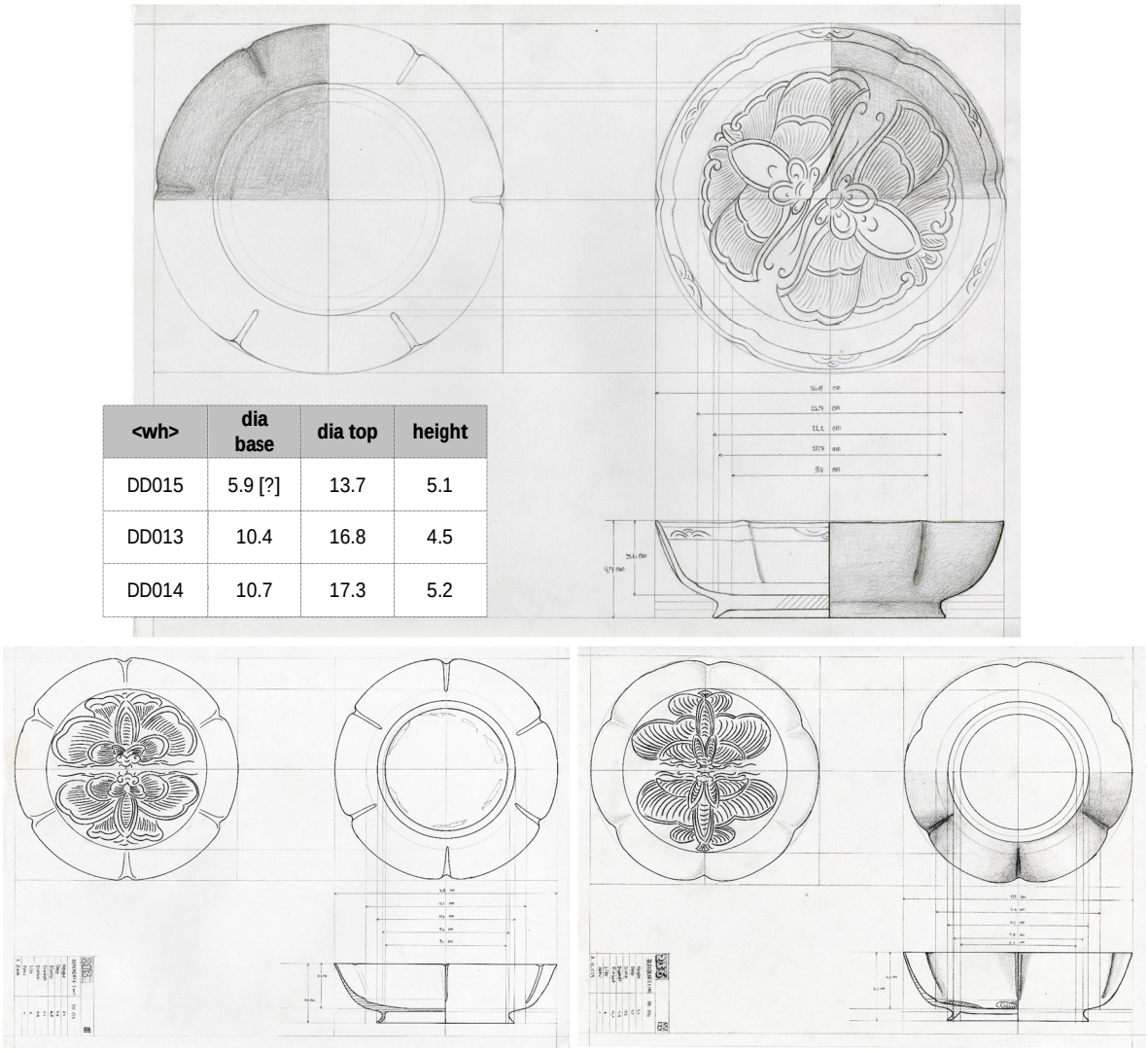


Fig.2.2-80: Occurrence of motifs on exterior (left) and interior (right) of decorated “open” vessels.



<wh>	dia base	dia top	height
DD015	5.9 [?]	13.7	5.1
DD013	10.4	16.8	4.5
DD014	10.7	17.3	5.2

Fig.2.2-81: Variations of motifs and measurements of vessels with ‘two butterflies(, frieze)’. Top to bottom right: <DD015/wh>, 10 records; <DD013/wh>, 181; <DD014/wh>, 9.

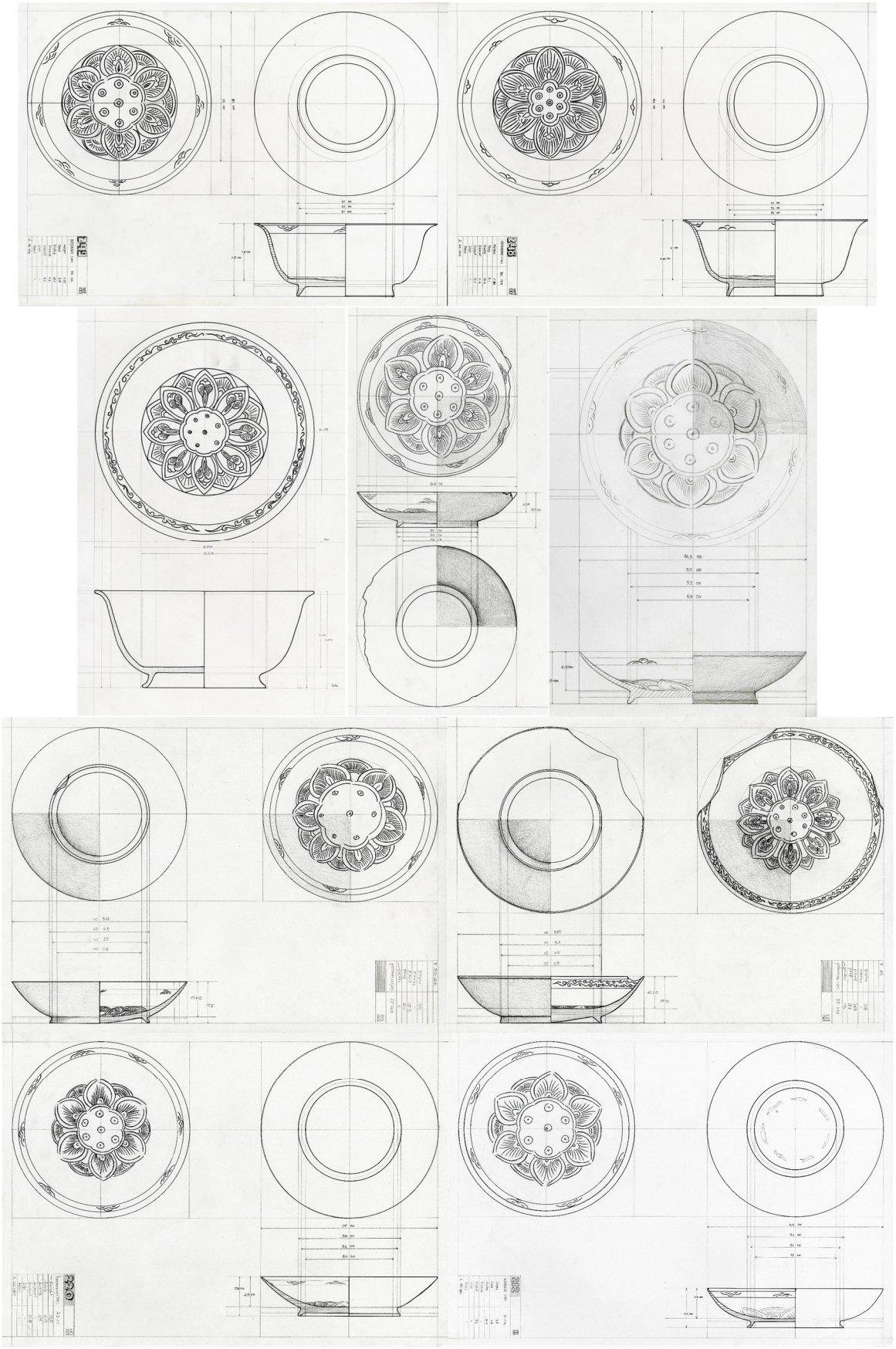


Fig.2.2-82: Variations of 'lotus, dots, frieze' in the available line drawings. Top left to bottom right: <BD001/wh>, <BD002/wh>, <BD003/wh>, <DD010/wh>, <DD055/wh>, <DD054/wh>, <DD049/wh>, single items; <DD011/wh>, 38; <DD012/wh>, 147.

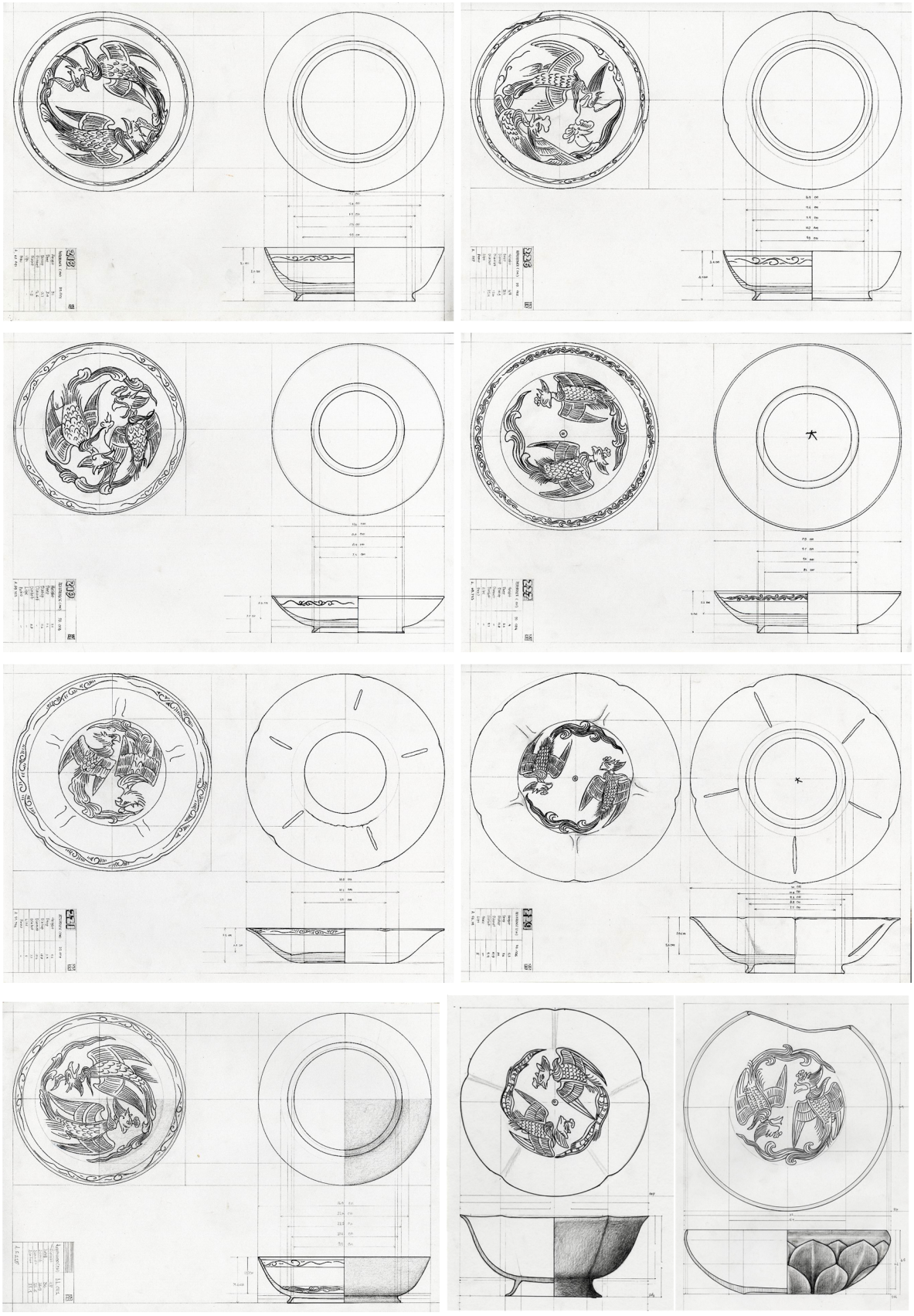


Fig.2.2-83: Variations of 'phoenix(, frieze)'. Top left to bottom right: <DD001/wh>, 164 vessels; <DD002/wh>, <DD003/wh>, 1; <DD004/wh>, 29; <DD005/wh>, 10; <DD006/wh>, 28; <DD042/wh>, 6; <BD035/wh>, <BD038/wh>, 1.

Fig.2.2-84: Variations of 'two parrots, frieze'. Top left to bottom: <BD007/wh>, <BD008/wh>, <BD041/wh>, 1; <DD017/wh>, 4; <DD018/wh>, 5; <DD025/wh>, 40; <DD026/wh>, 4; <DD042/wh>, 6; <DD040/wh>, 2.

<wh>	dia base	dia top	height
Big Bowl 1	12	30	11.7
BD 016	5.4	13.6	4.9

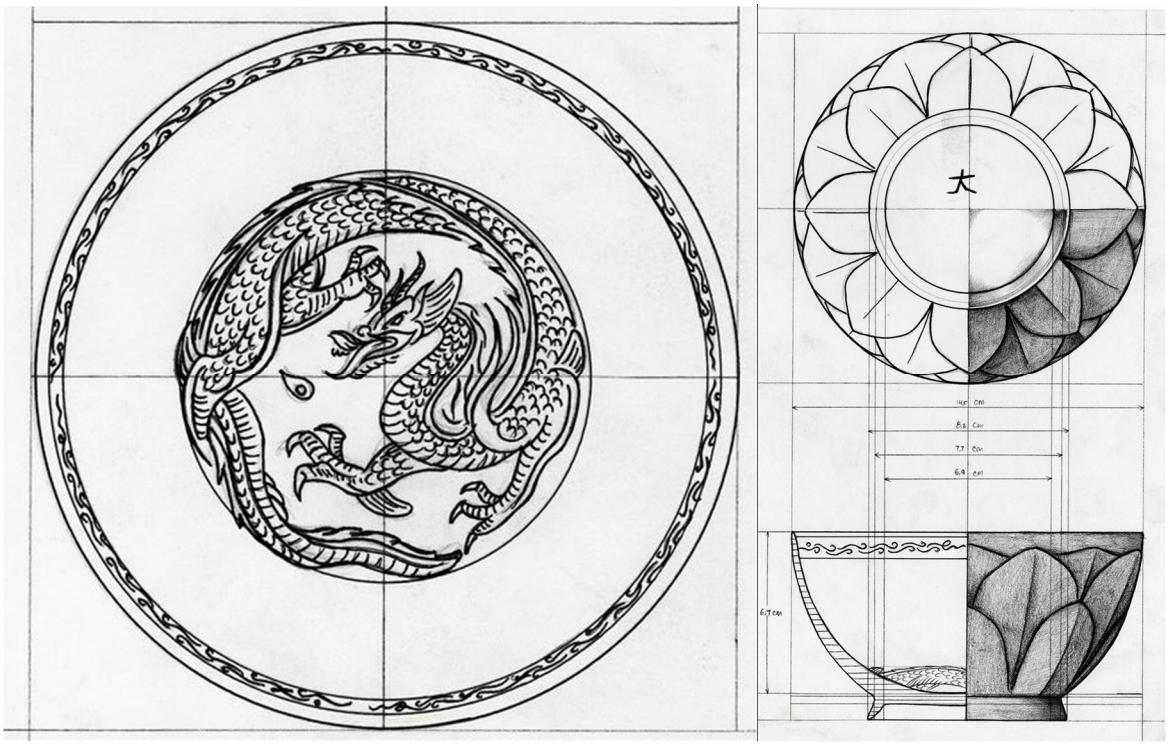
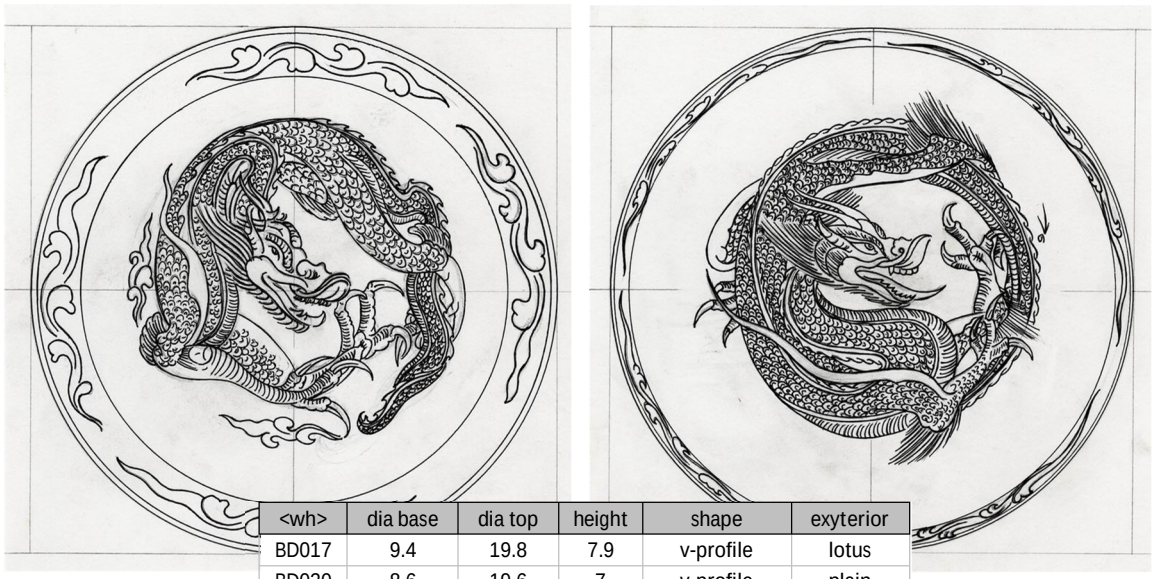
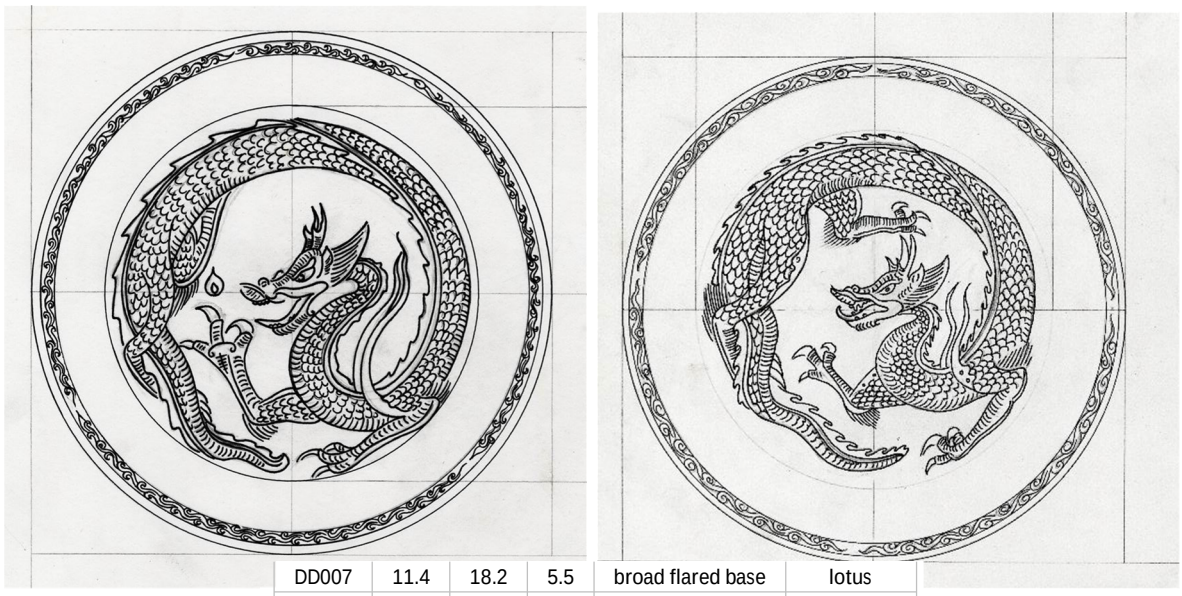


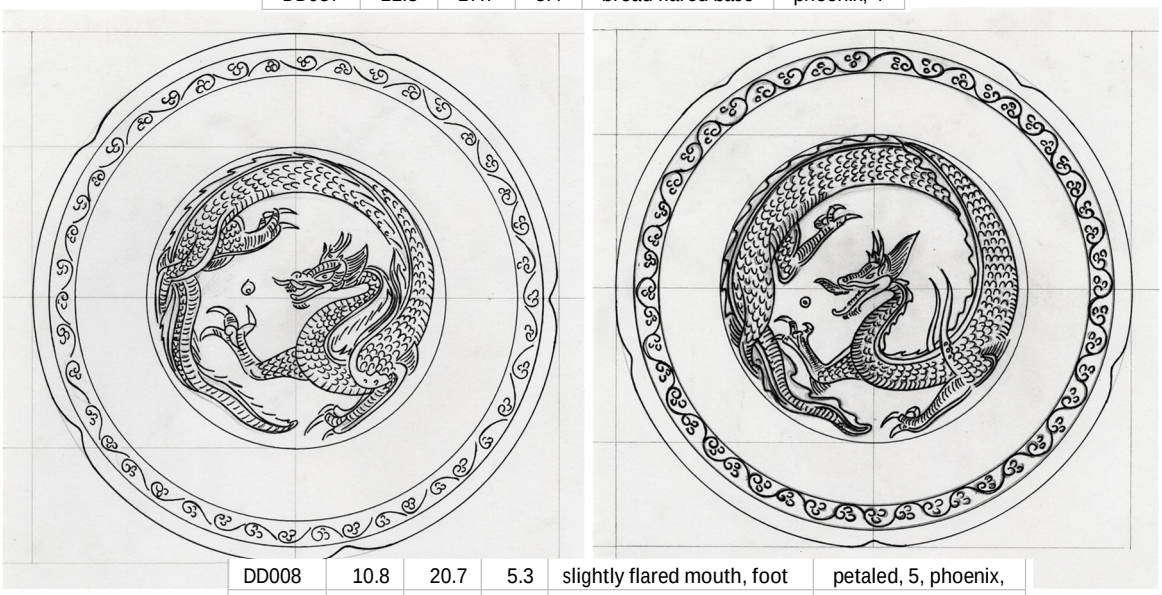
Fig.2.2-85: Example photograph of <Big Bowl01/wh> (above); line drawing of <BD016/wh> (below); basic measurements.



<wh>	dia base	dia top	height	shape	exyterior
BD017	9.4	19.8	7.9	v-profile	lotus
BD020	8.6	19.6	7	v-profile	plain



DD007	11.4	18.2	5.5	broad flared base	lotus
DD037	11.8	17.7	5.4	broad flared base	phoenix, 4



DD008	10.8	20.7	5.3	slightly flared mouth, foot	petaled, 5, phoenix,
DD009	10.3	20.7	5.6	slightly flared mouth, foot	lotus

Fig.2.2-86: Variations of 'dragon, frieze'. Top left to bottom right: <BD017/wh>, <BD020/wh>, single objects; <DD007/wh>, 15 registered vessels; <DD037/wh>, 40; <DD008/wh>, 3; <DD009/wh>, 23.

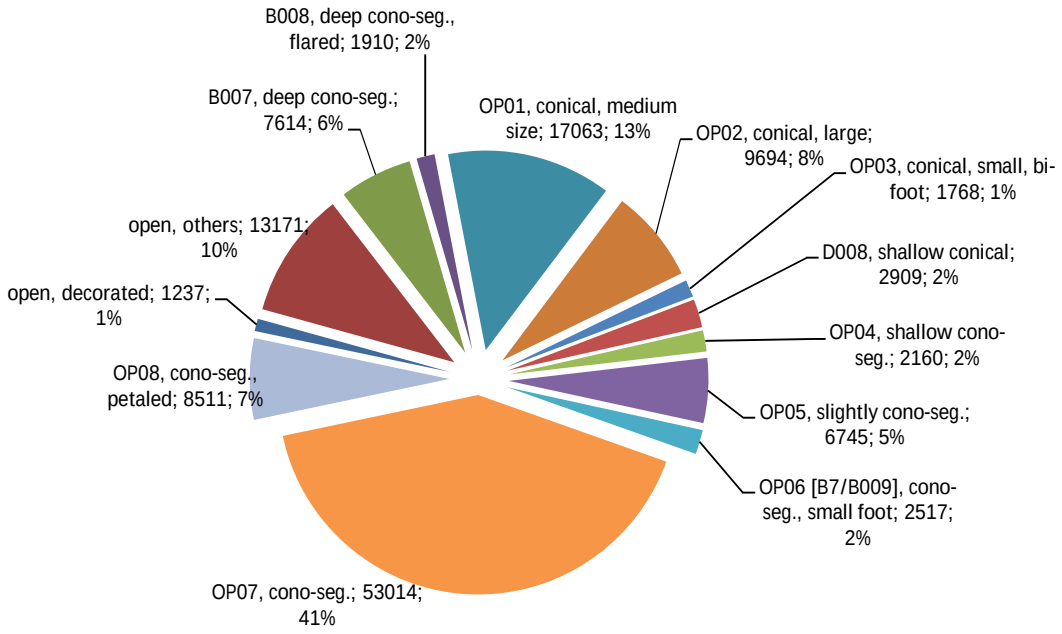


Fig.2.2-87: Shares of crosschecked waregroups in overall numbers of “open” green-glazed vessels.

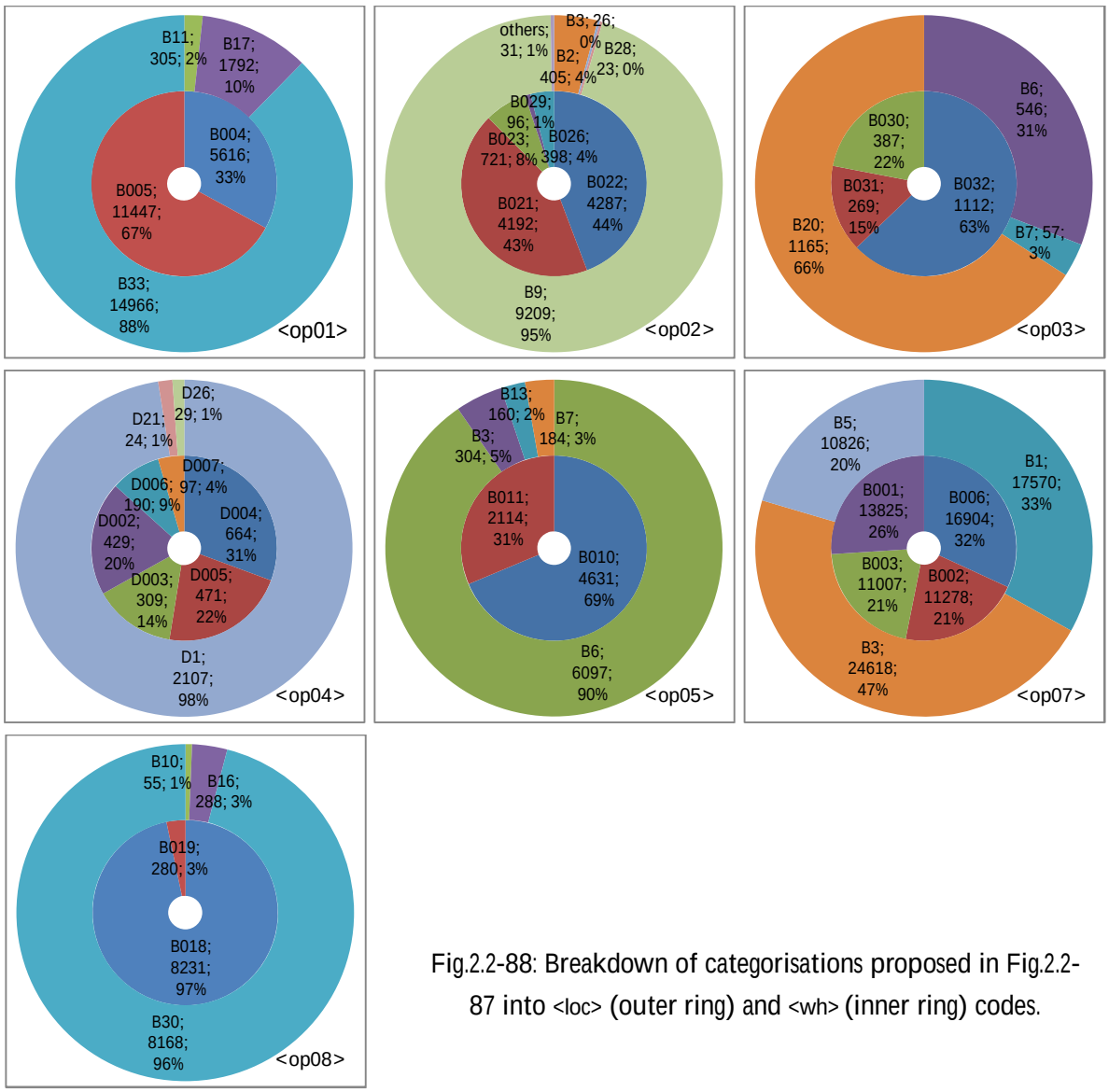
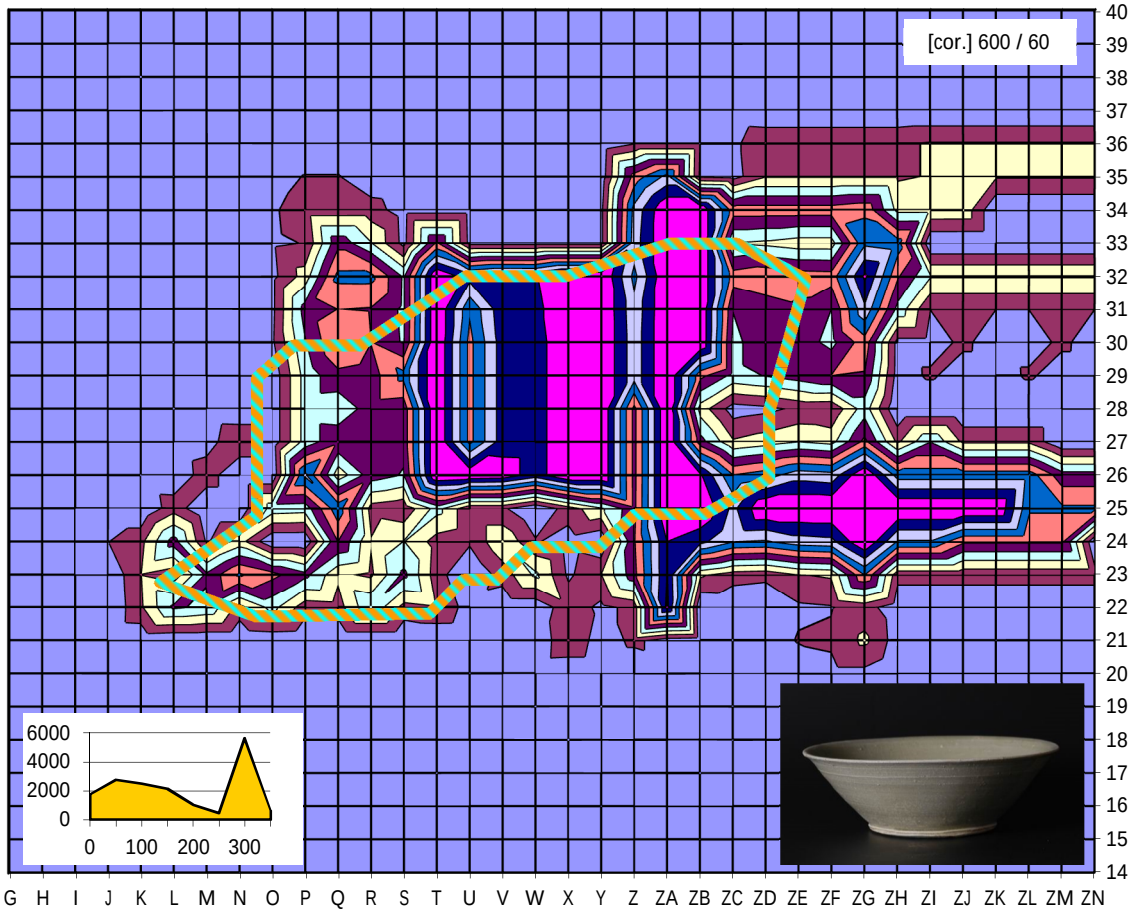


Fig.2.2-88: Breakdown of categorisations proposed in Fig.2.2-87 into <loc> (outer ring) and <wh> (inner ring) codes.



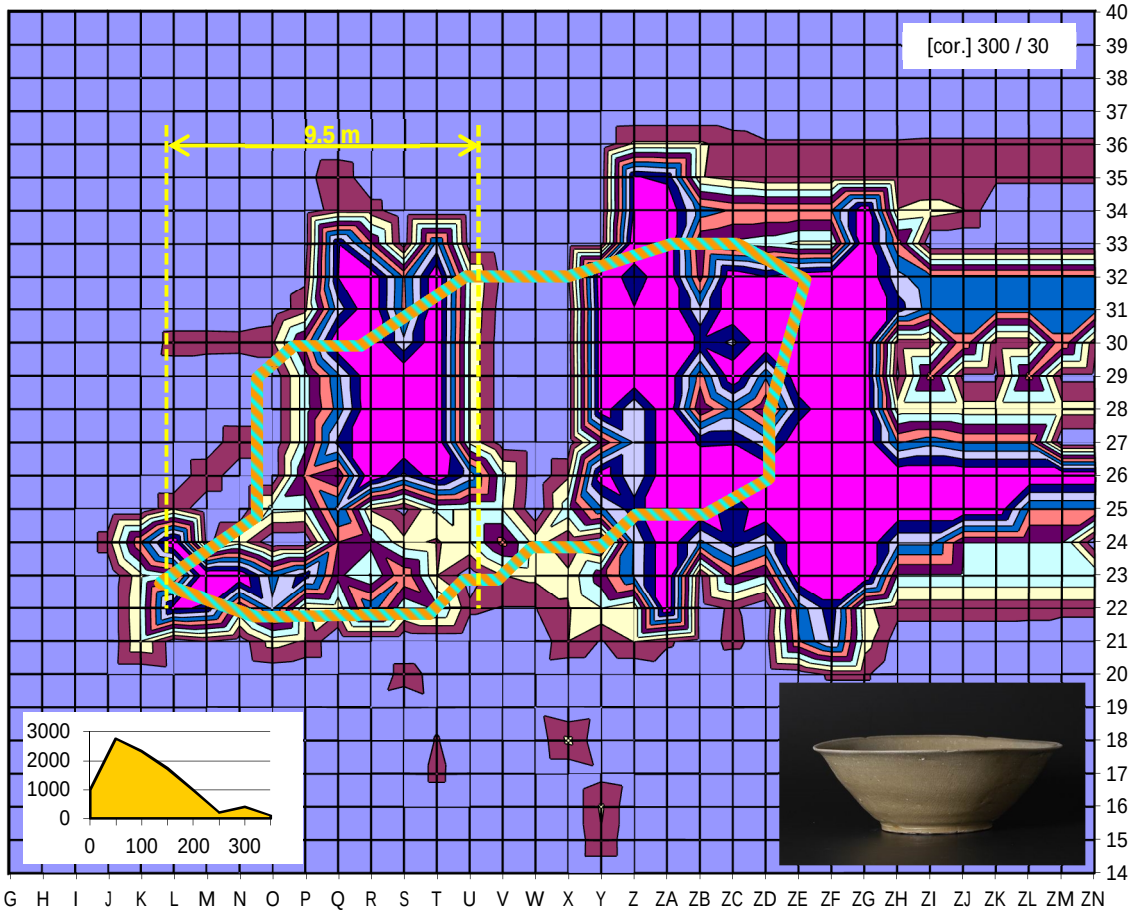


Fig.2.2-89: Distribution of <OP01> (above) and <OP02> (below). Yellow lines mark approximate distance of 'tween-deck from bows of the ship. Cont. …

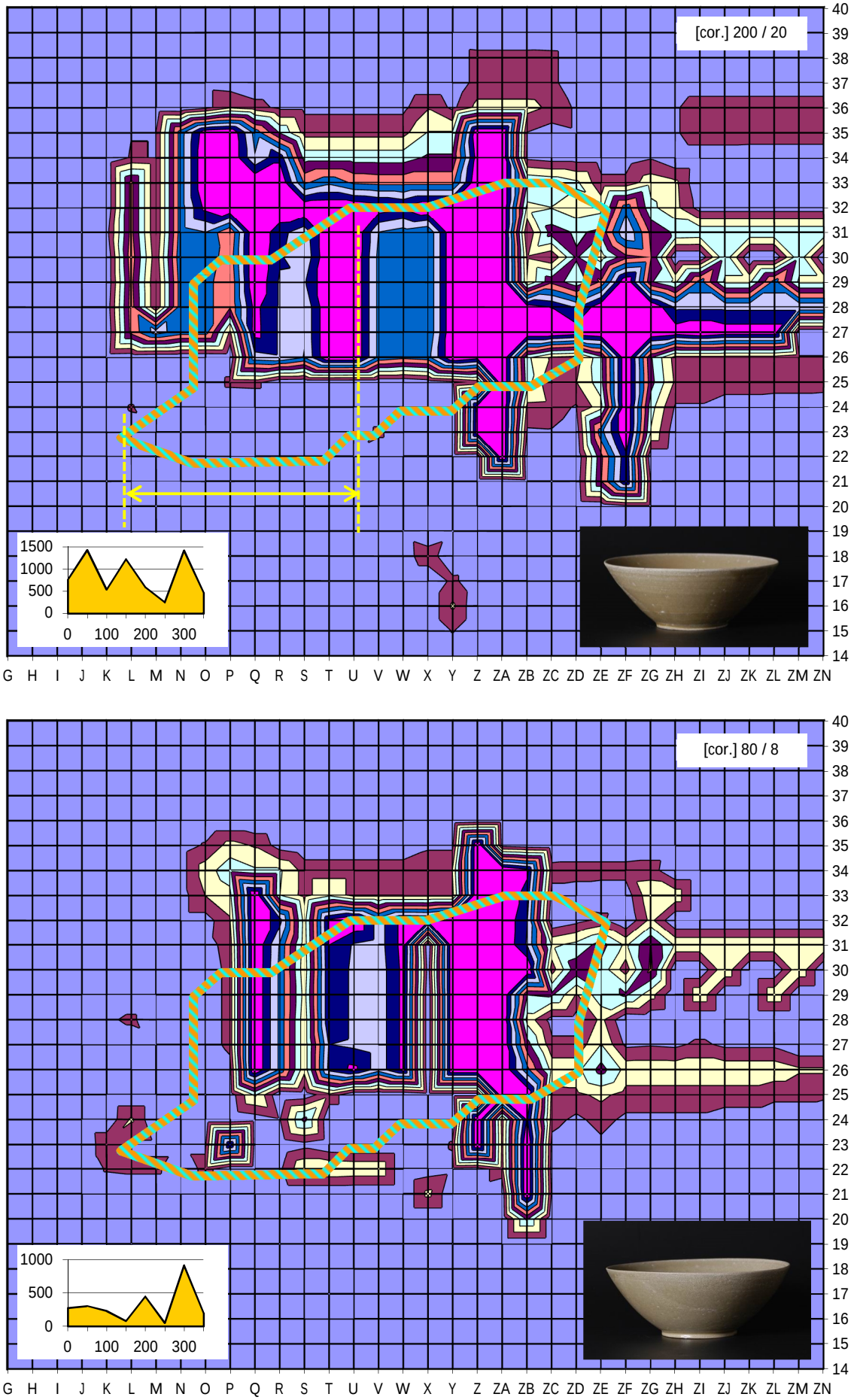
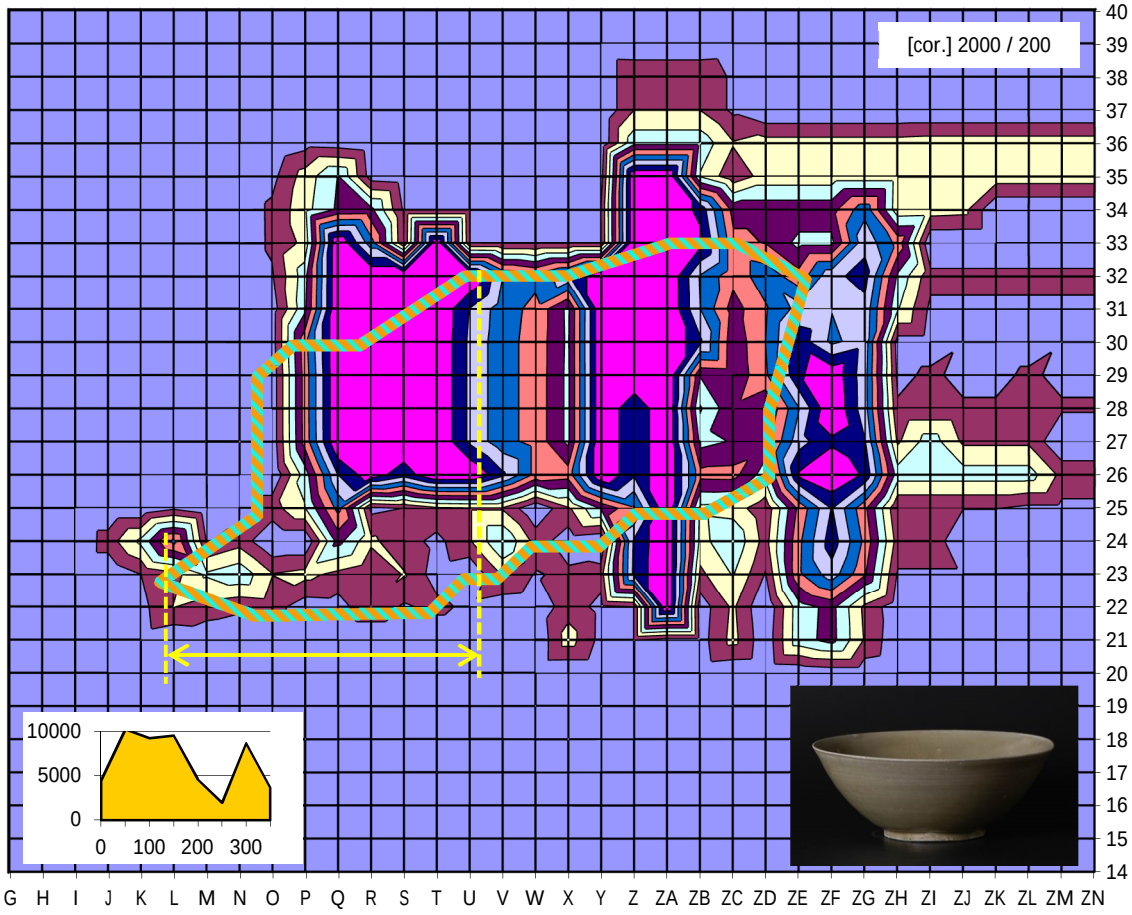


Fig.2.2-89: Distribution of <OP05> (above) and <OP06> (below). Yellow lines mark approximate distance of 'tween-deck from bows of the ship. Cont. …



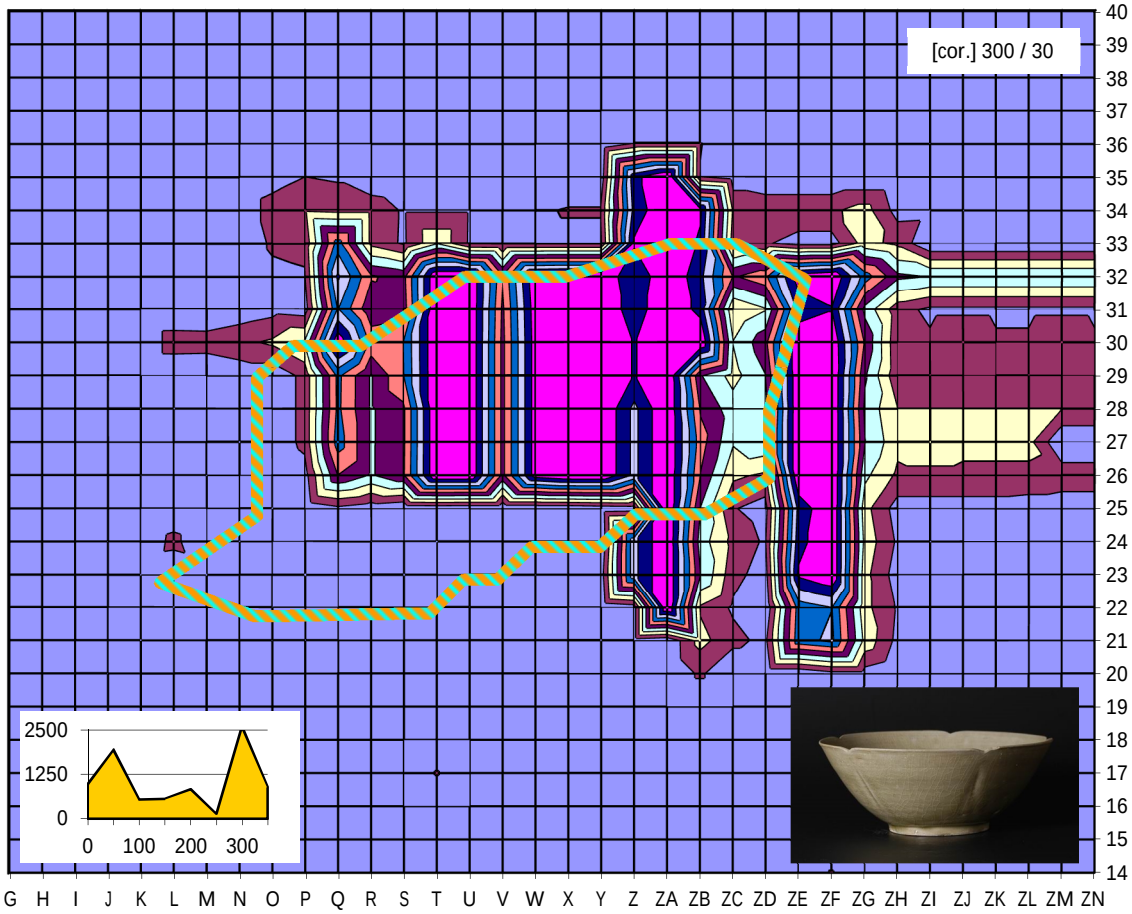
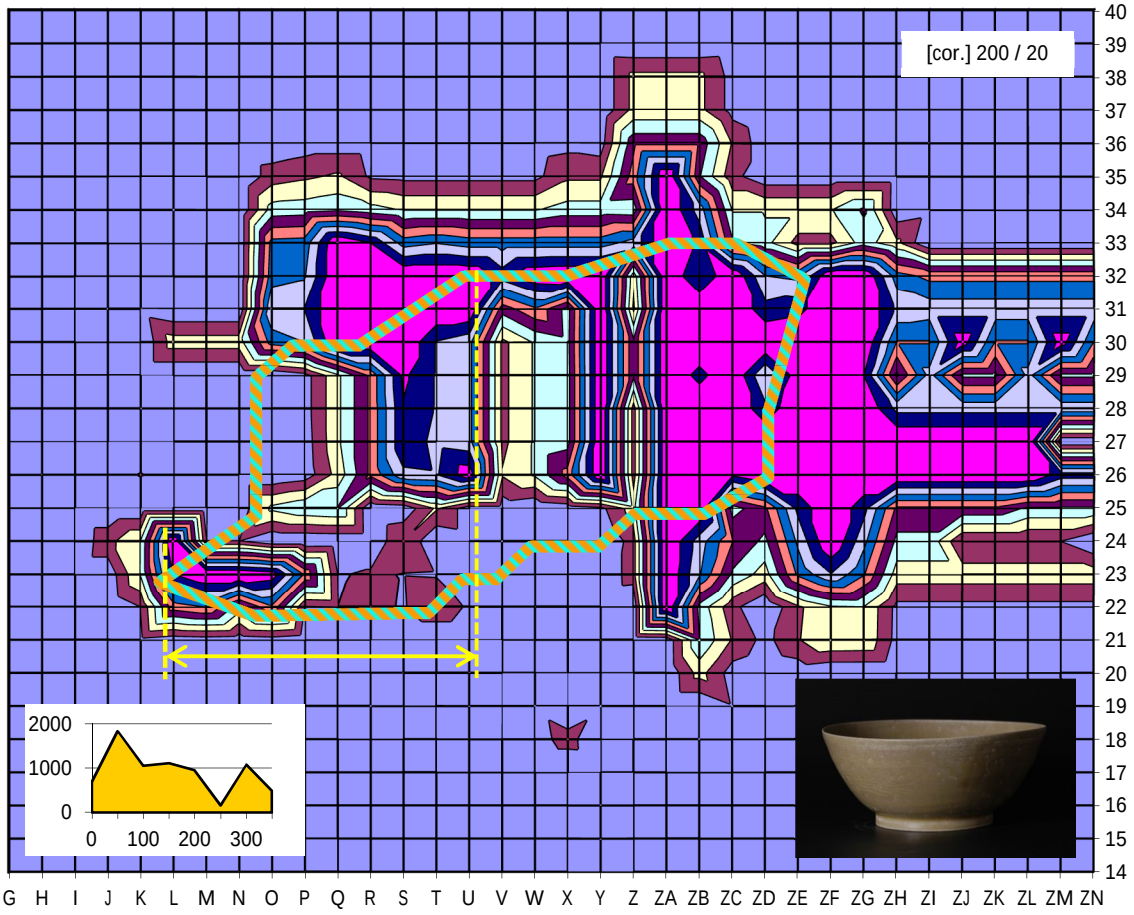


Fig.2.2-89: Distribution of <OP07> (above) and <OP08> (below). Yellow lines mark approximate distance of 'tween-deck from bows of the ship. Cont. …



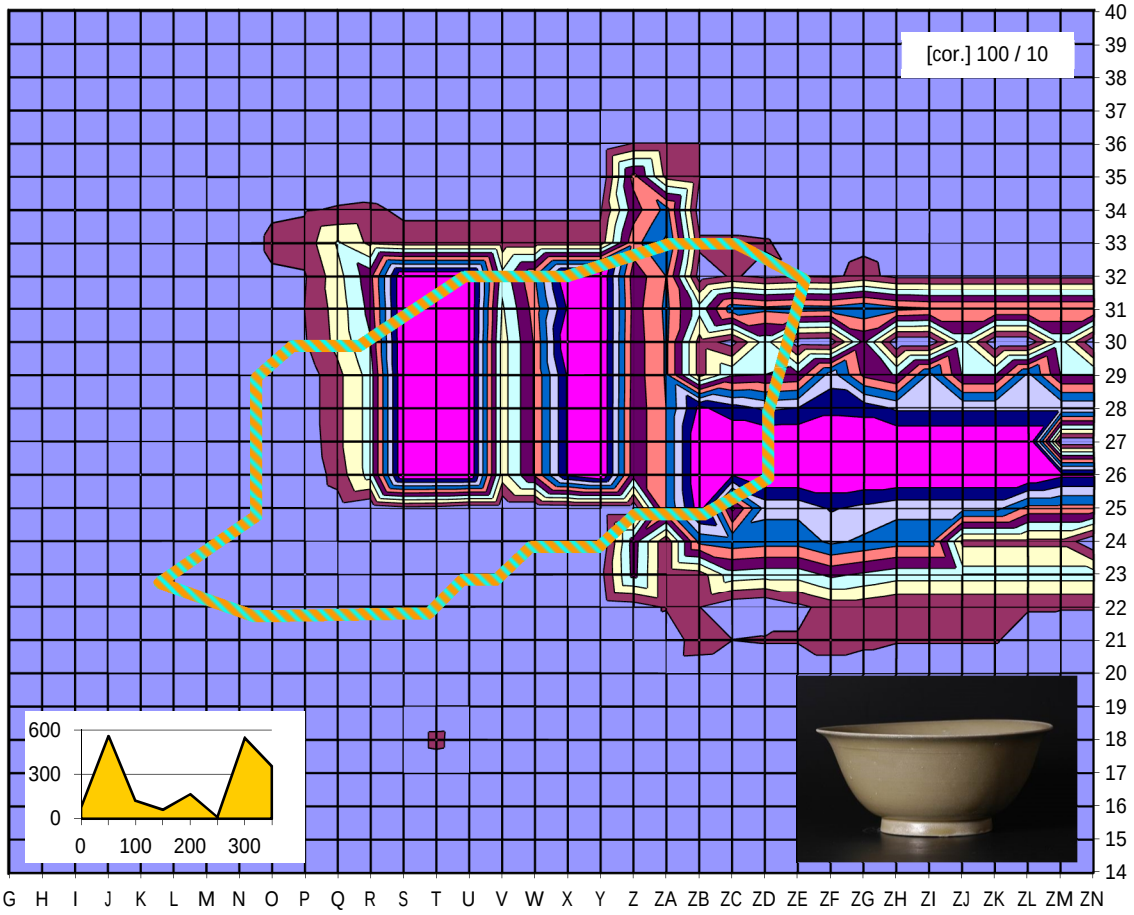
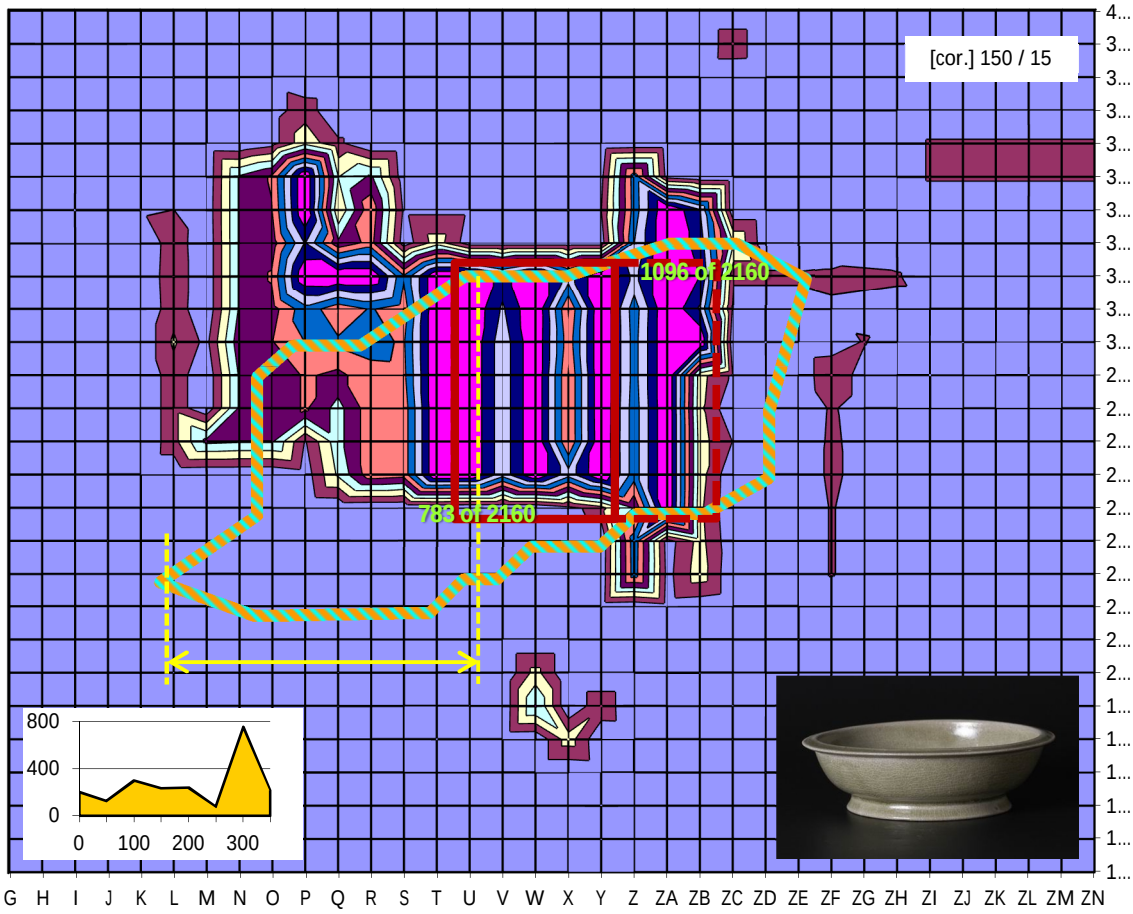


Fig.2.2-89, cont.: Distribution of <B007/wh> (above) and <B008/wh> (below). Yellow lines mark approximate distance of 'tween-deck from bows of the ship.



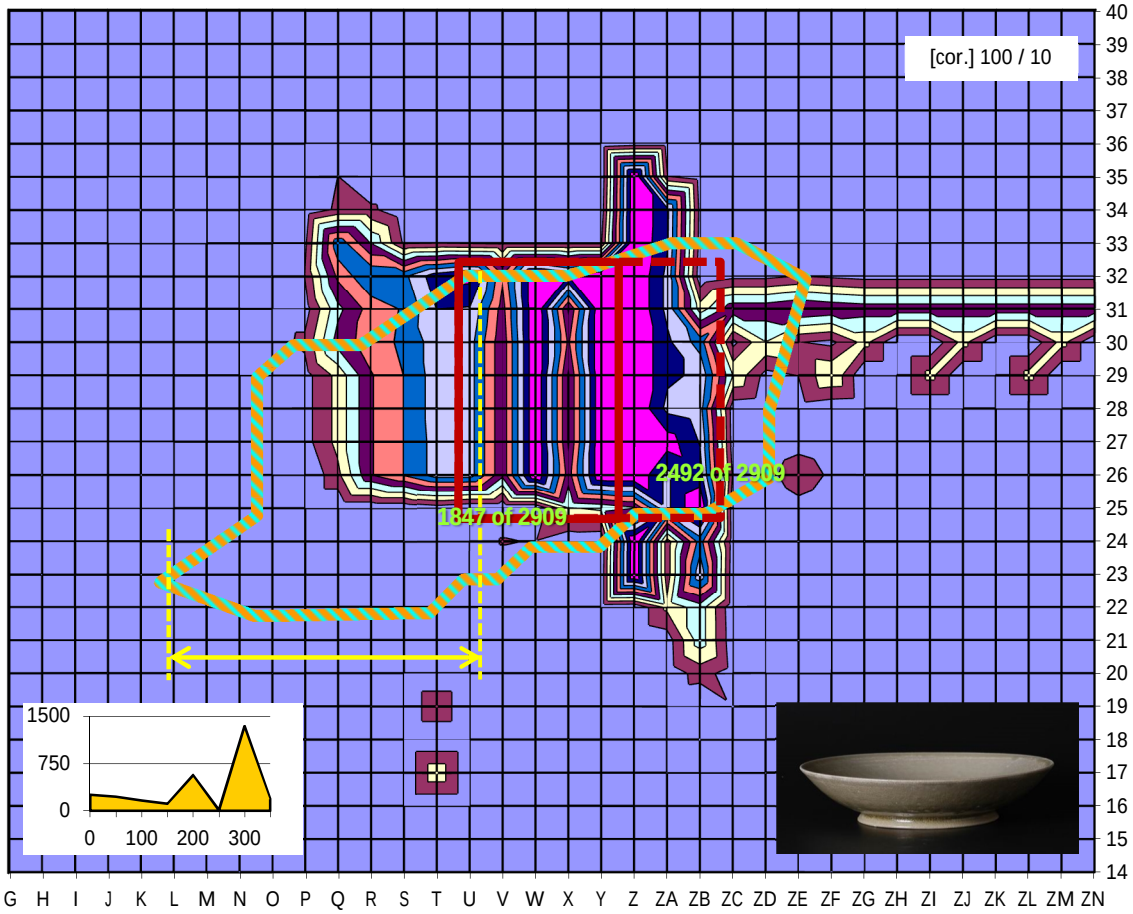
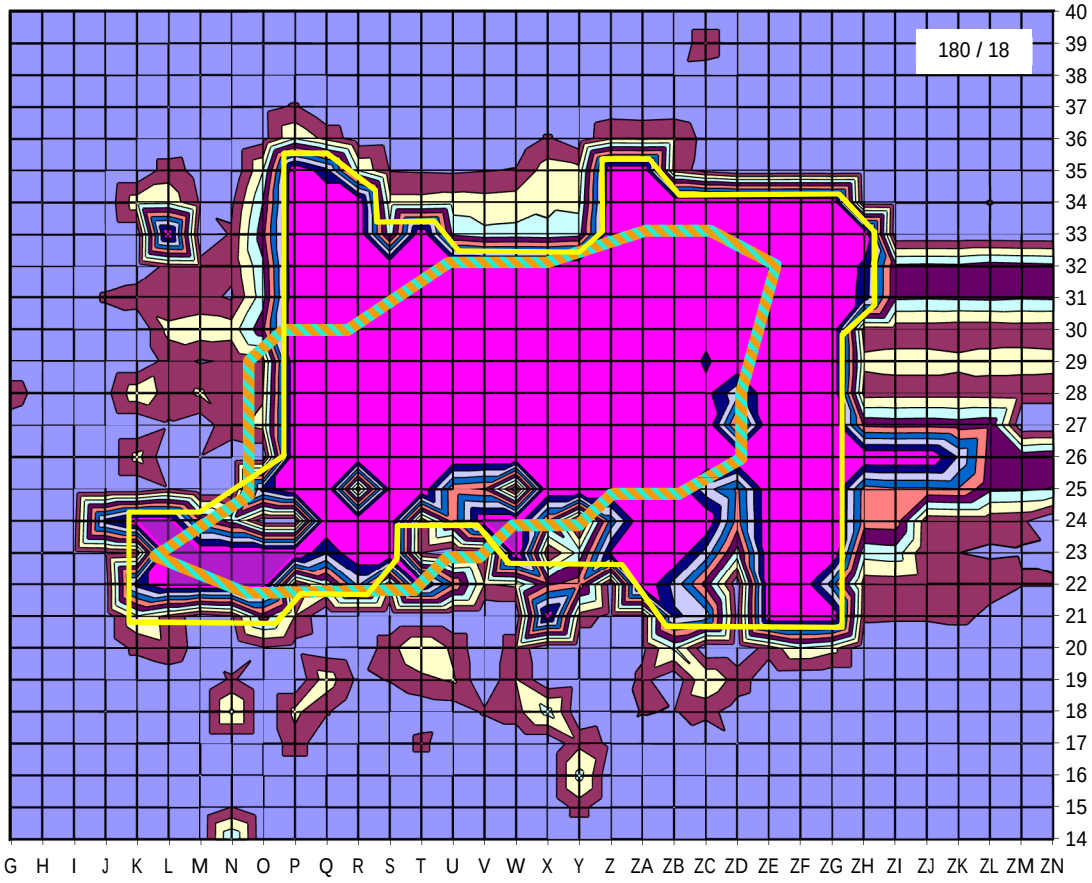


Fig.2.2-90: Distribution of <OP04> (above) and <D008/wh> (below).



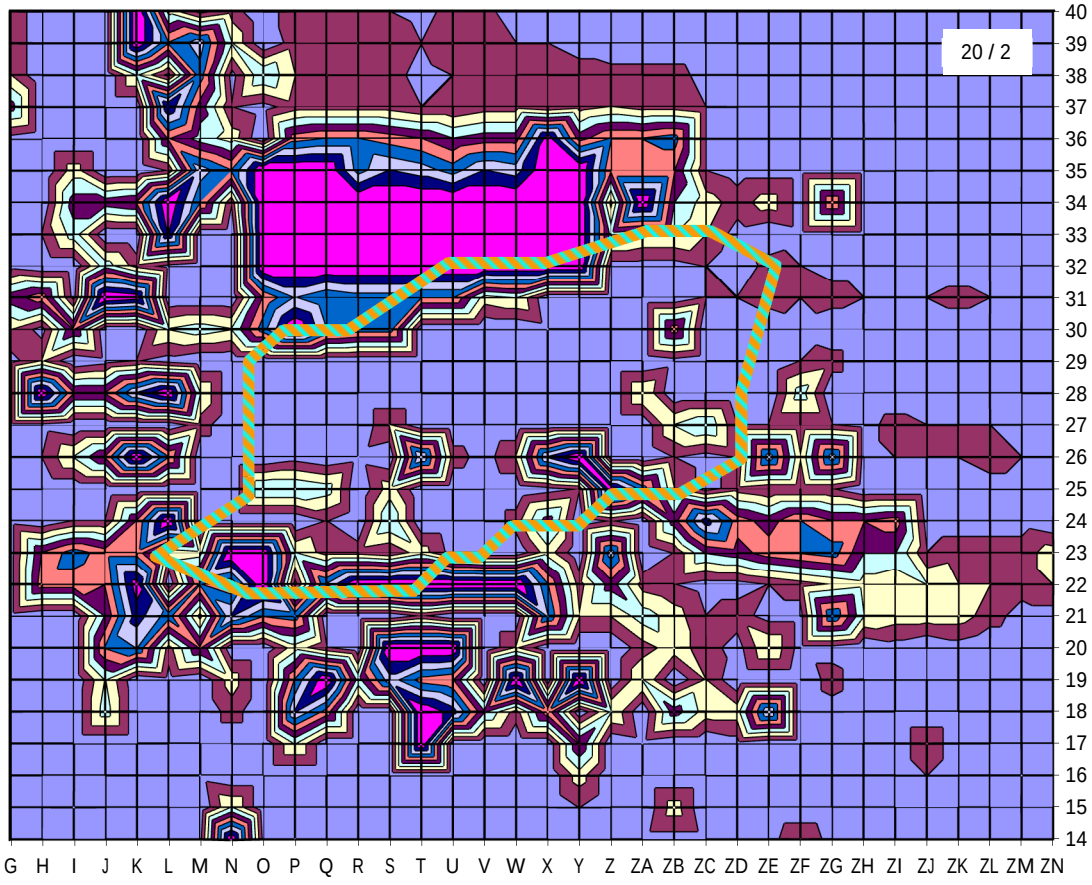


Fig.2.2-91: Uncorrected distribution charts of all plain “open” (above) and “closed” (below) green-glazed vessels.

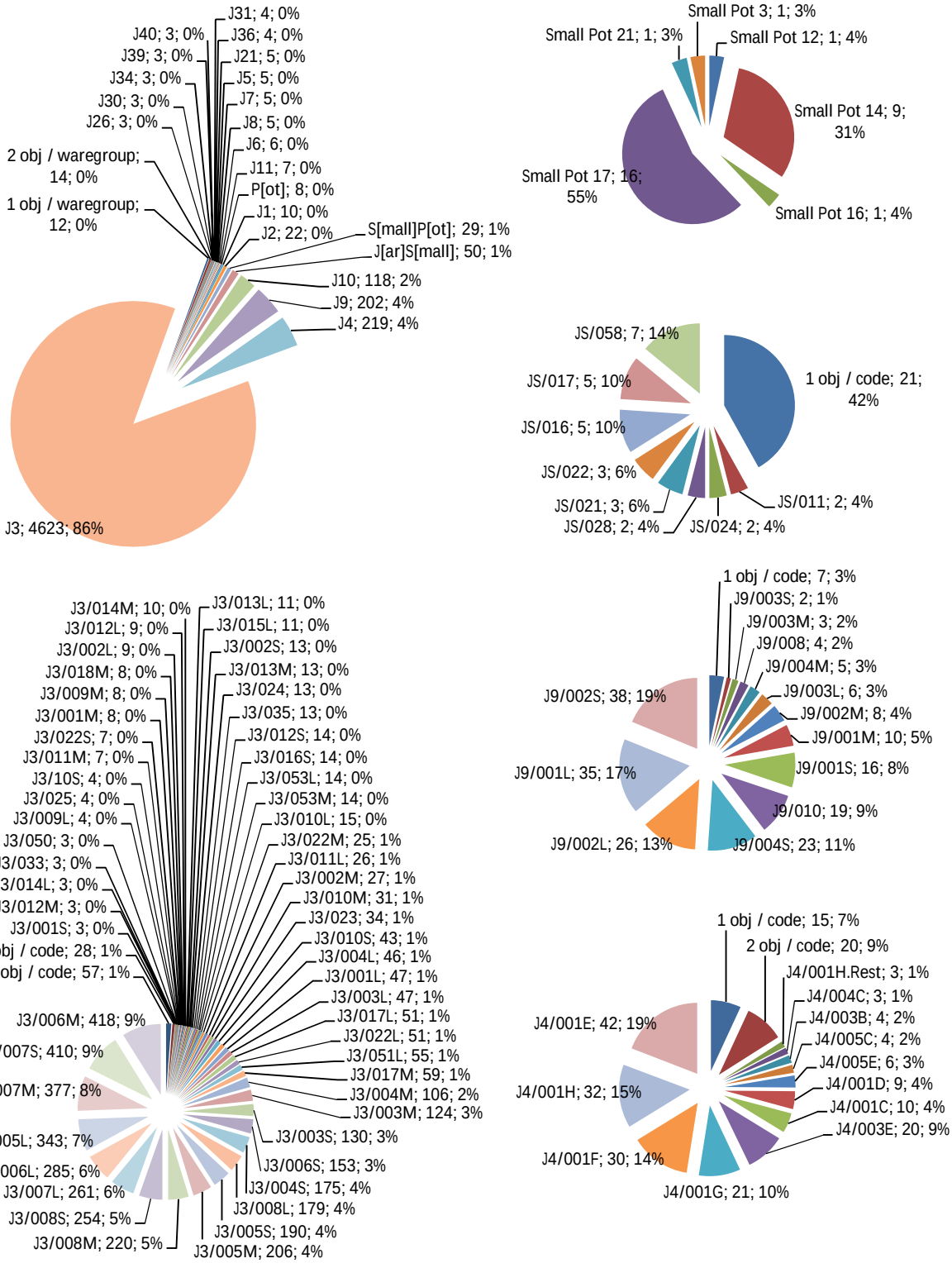


Fig.2.2-92: Green-glazed “closed” vessels, <wh> waregroups (top left) and major subgroups.

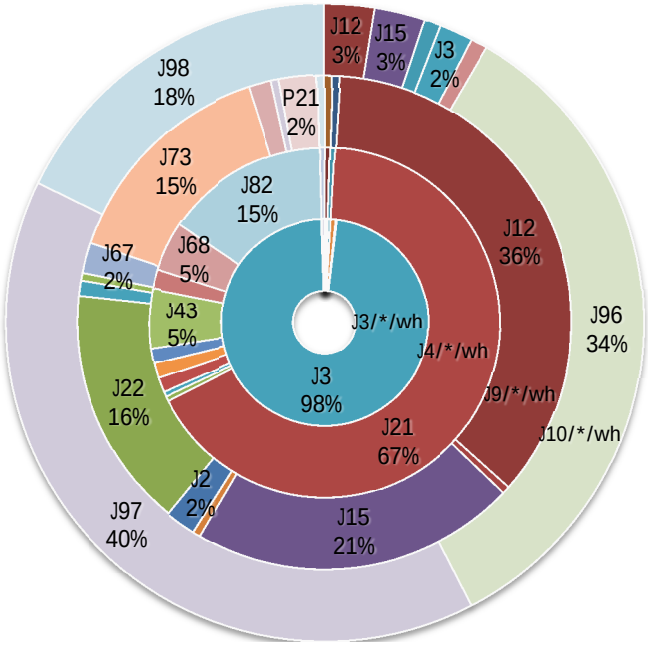


Fig.2.2-93: <loc> categorisations for the four most numerous <J*/wh> waregroups.

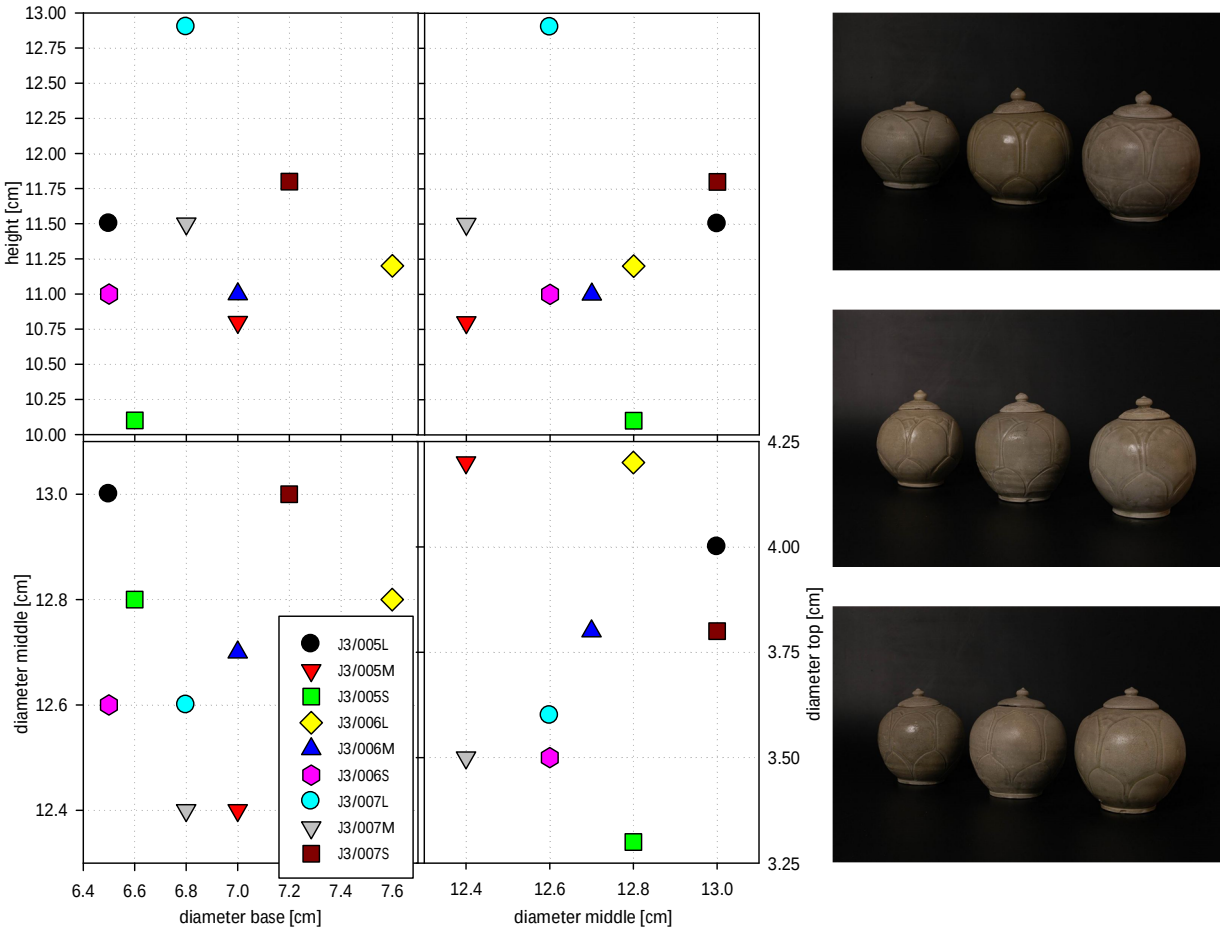


Fig.2.2-94: Measurements reported for <J3/005*>, <J3/006*> and <J3/007*>.

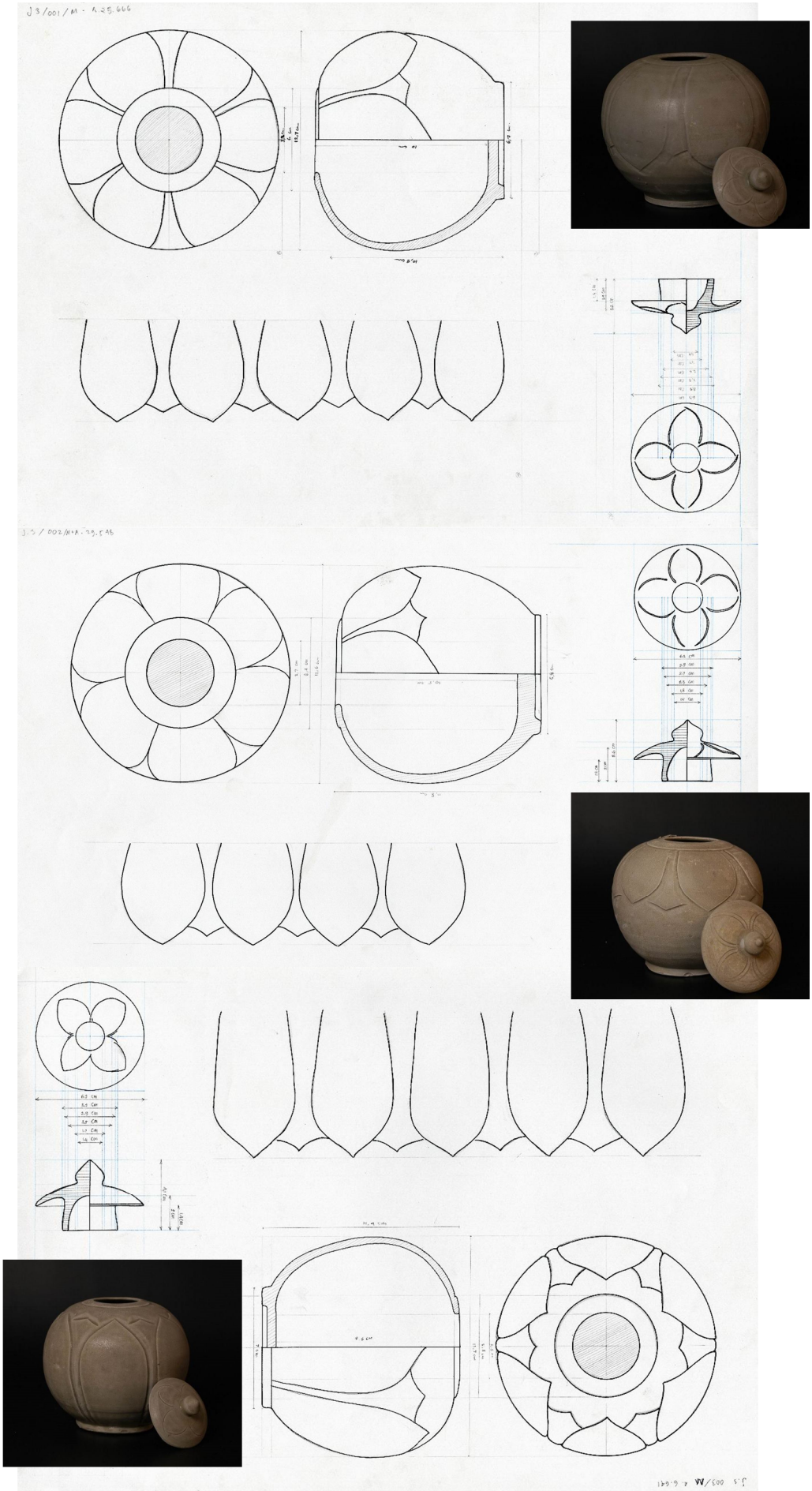


Fig.2.2-95: Line drawings and example photographs for <J3/001*>, <J3/002*> and <J3/003*>.

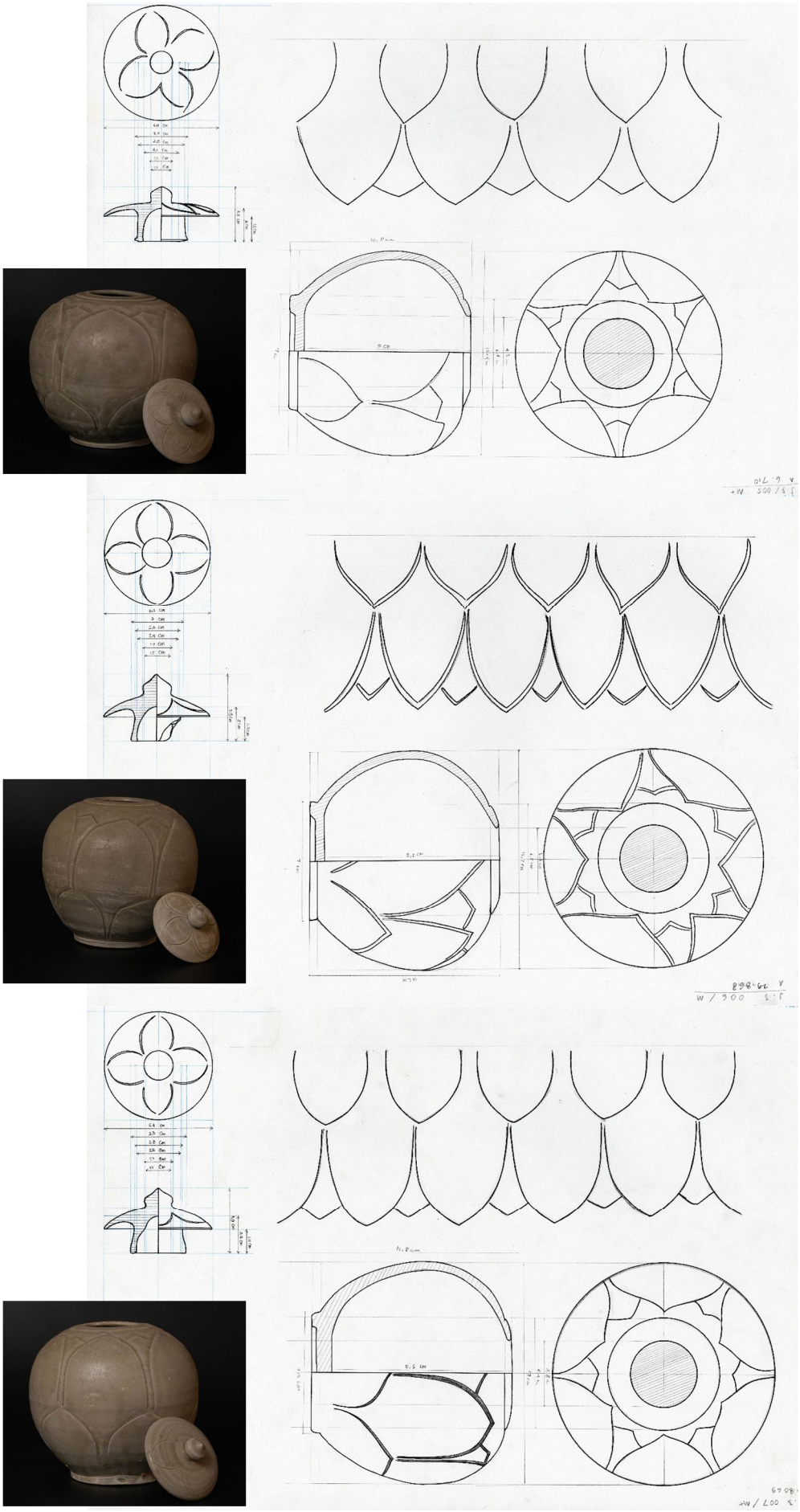
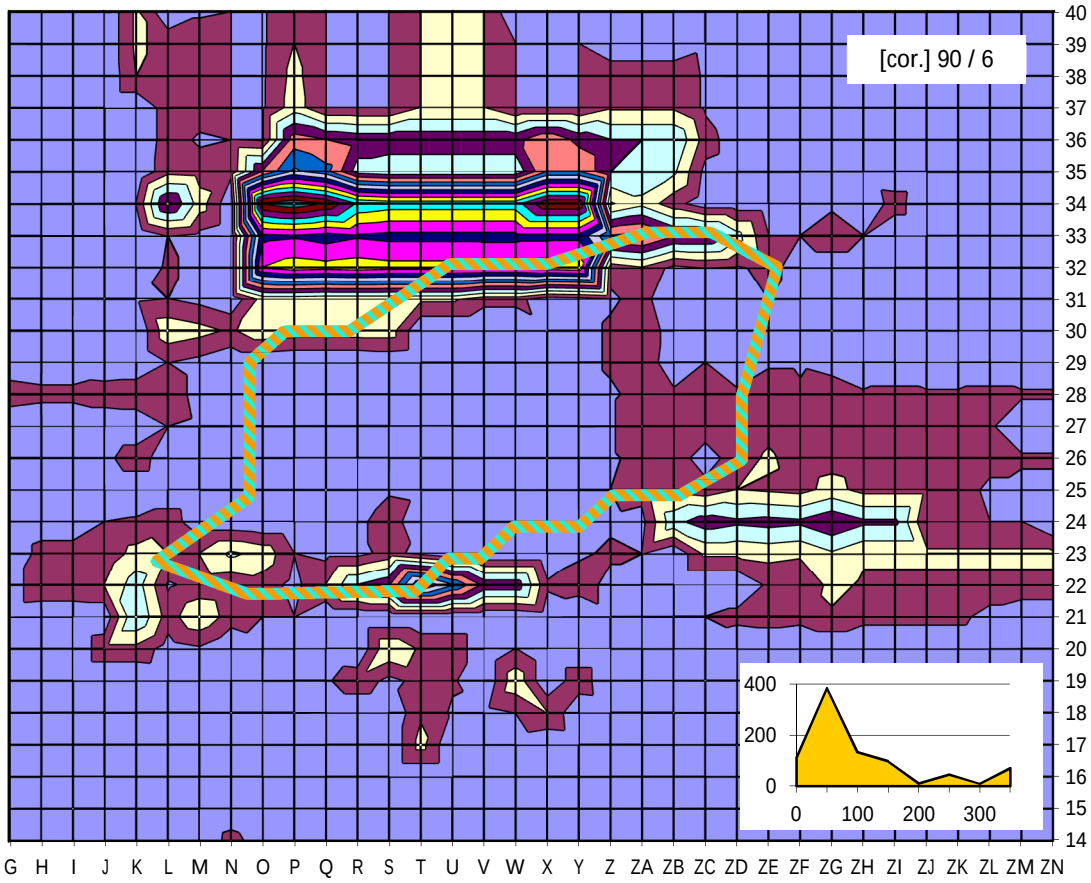


Fig.2.2-96: Line drawings and example photographs for <J3/005*>, <J3/006*> and <J3/007*>.



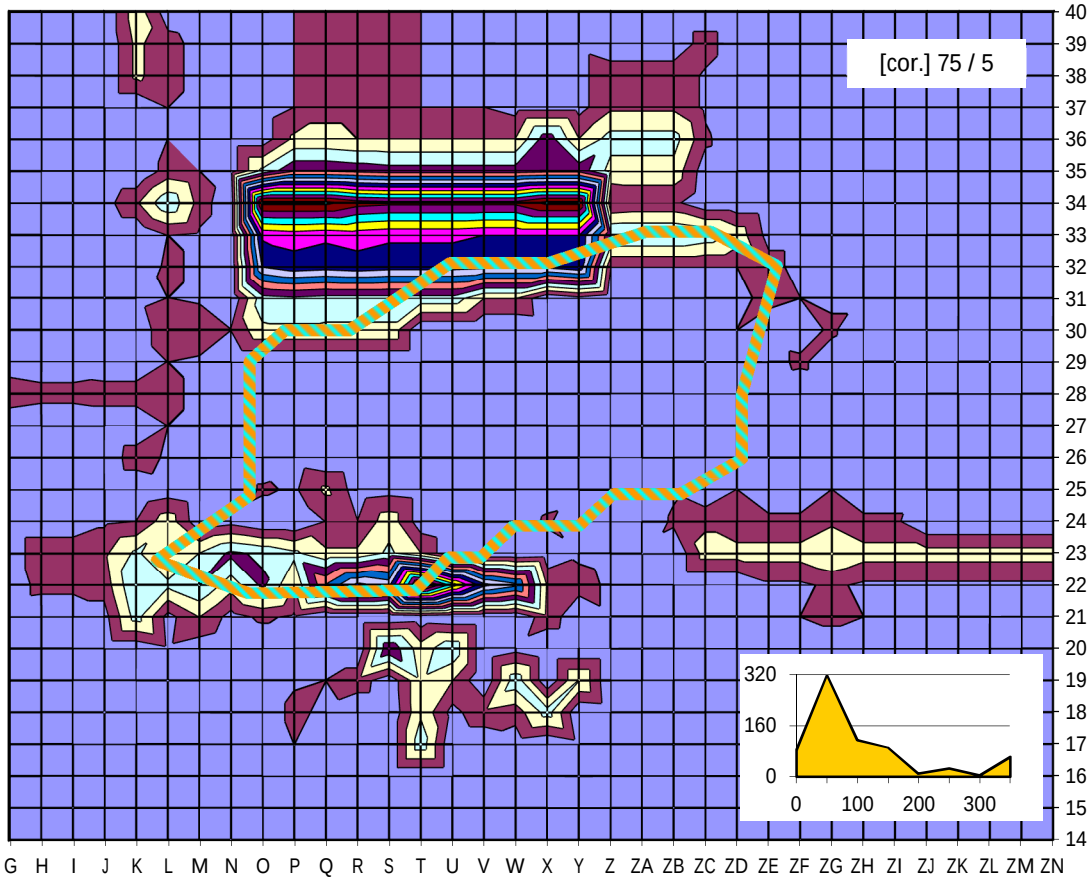
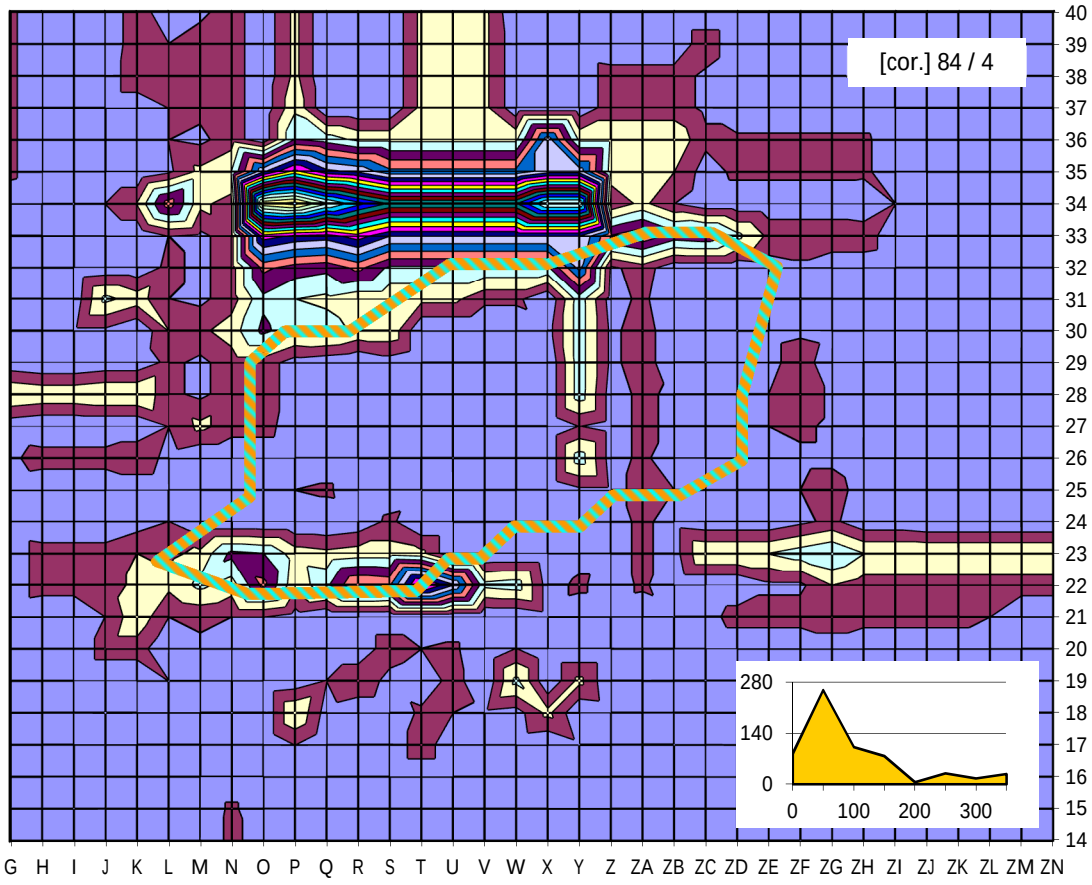


Fig.2.2-97: Distribution of <J3/007*/wh> and <J3/006*/wh>. Cont. …



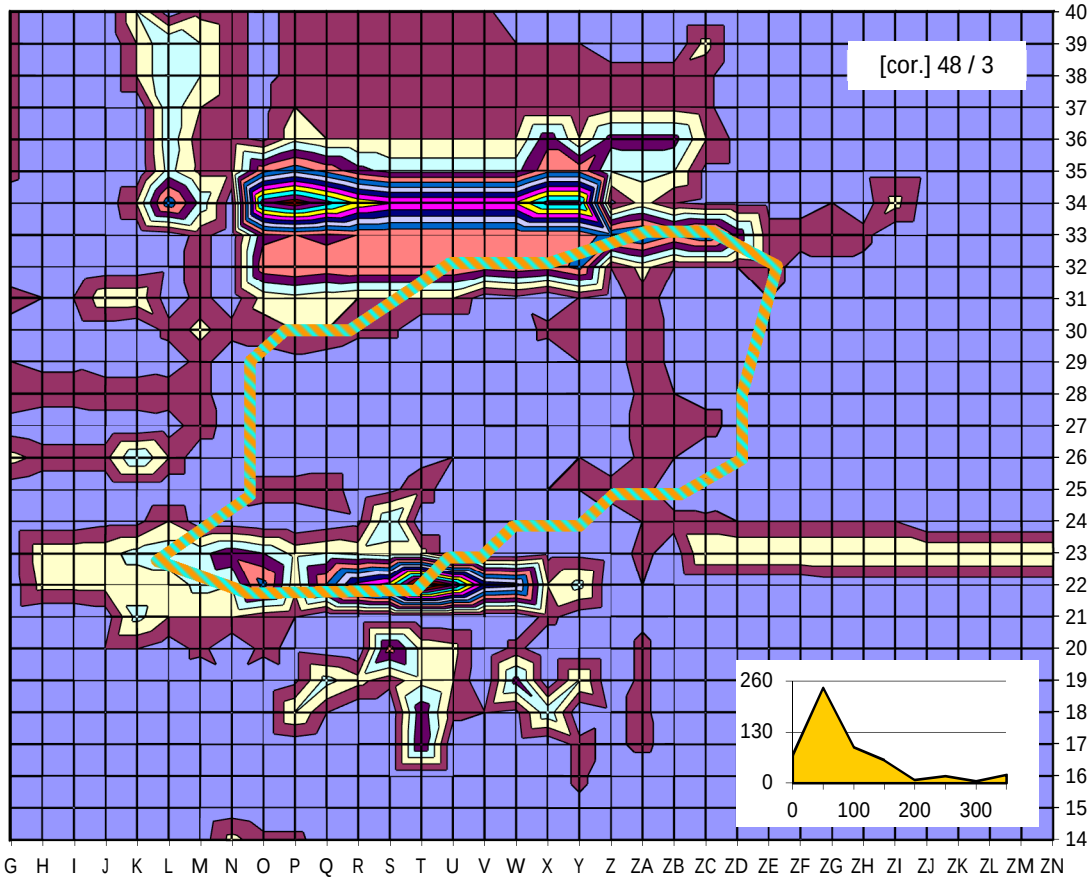
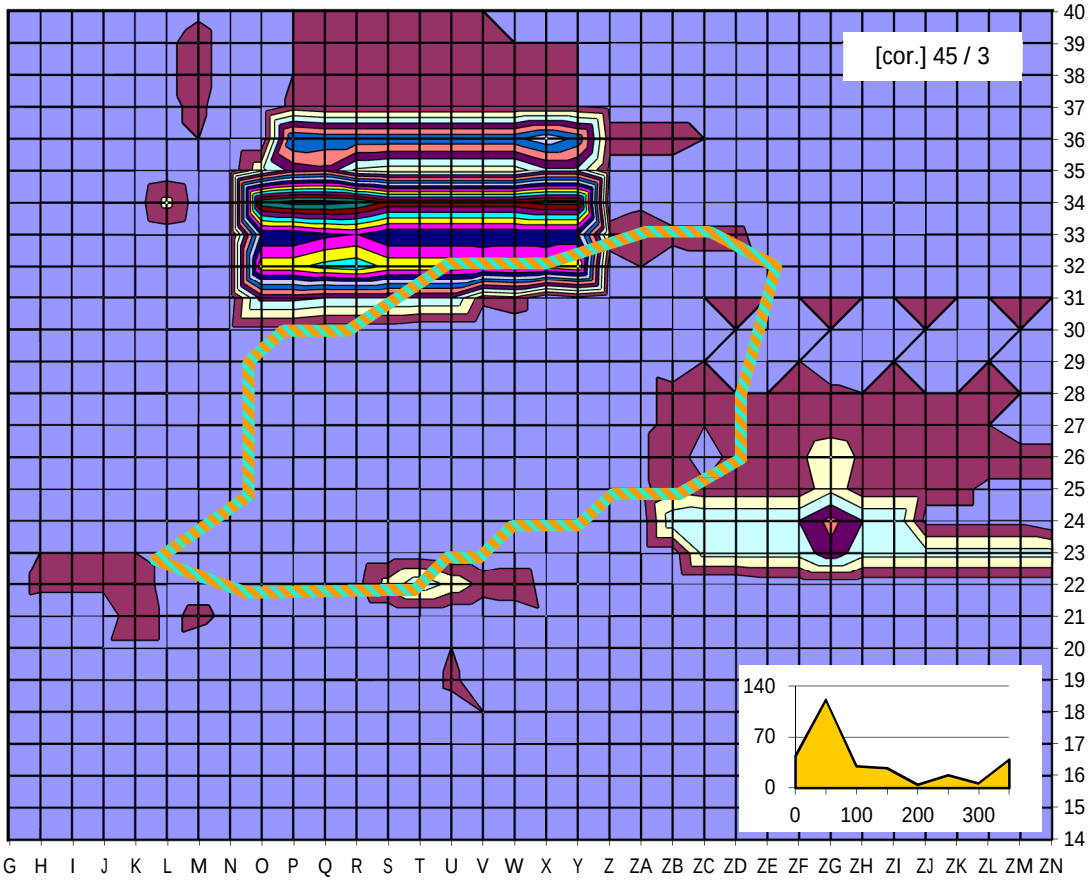


Fig.2.2-97: Distribution of <J3/005*/wh> and <J3/008*/wh>. Cont. …



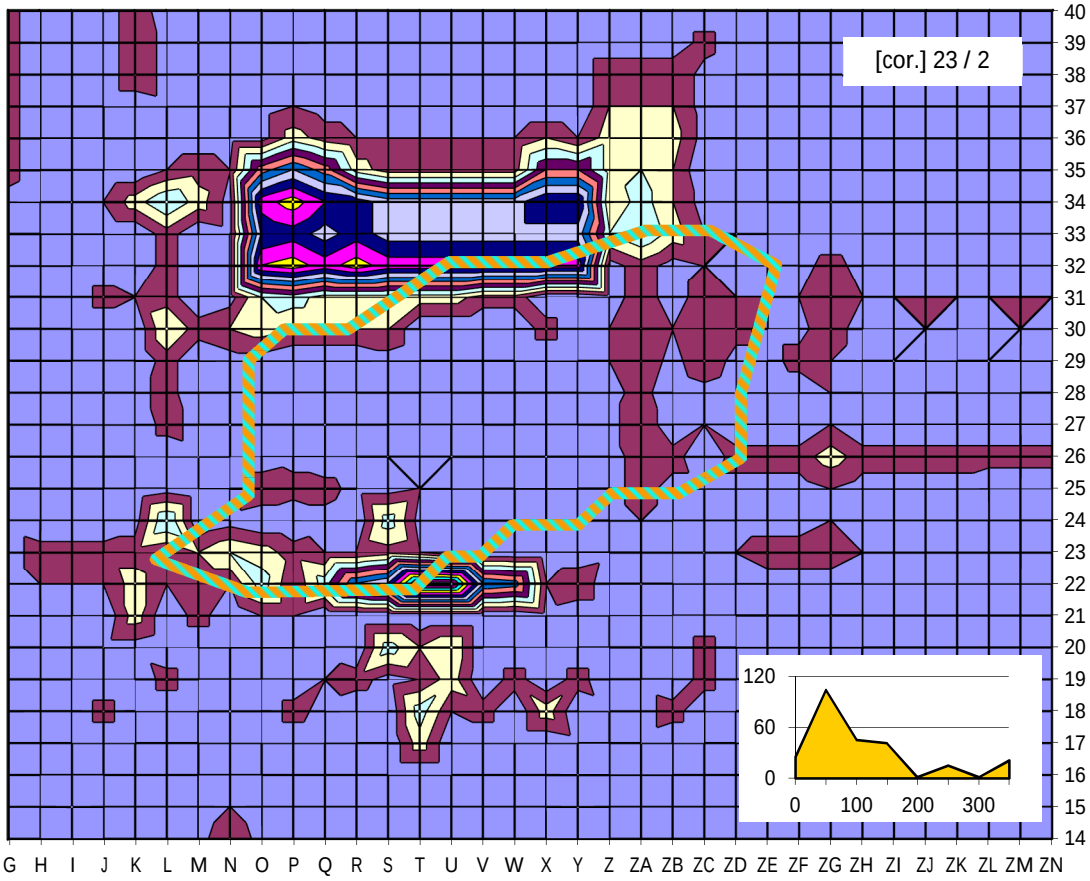
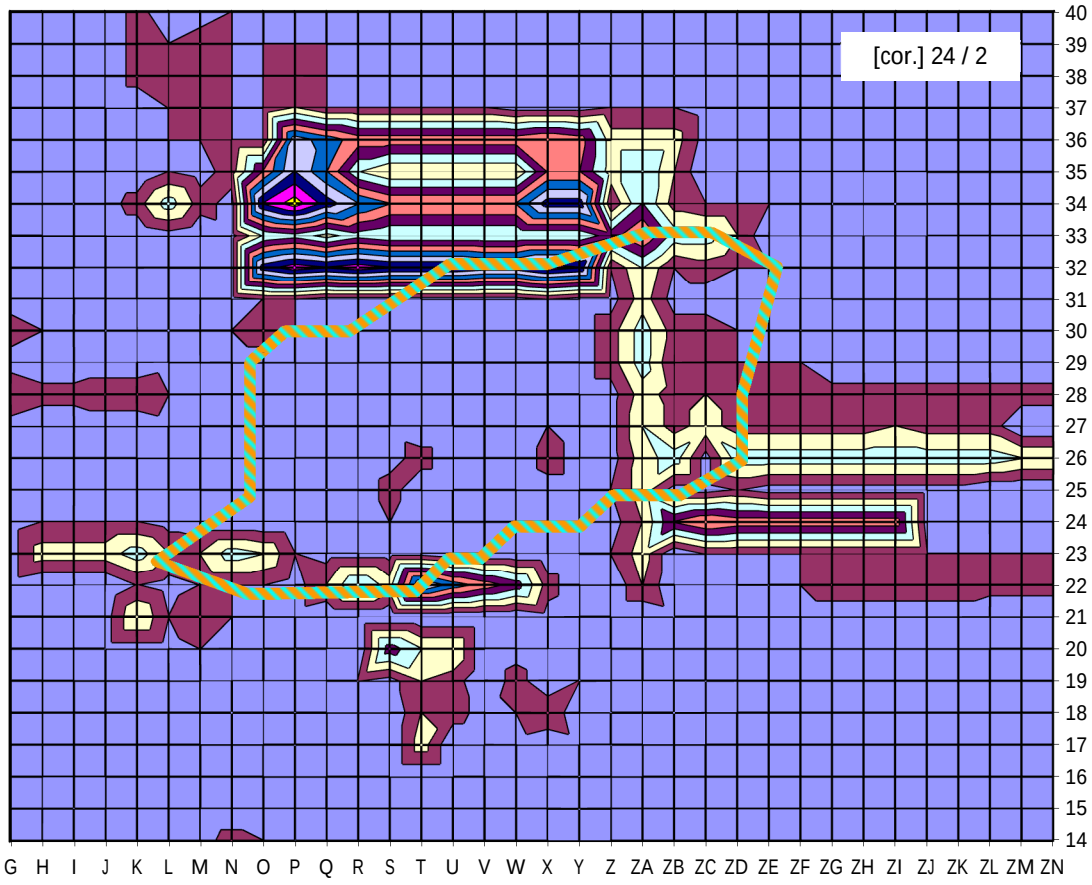


Fig.2.2-97, cont.: Distribution of <J3/004*/wh> and <J3/003*/wh>.



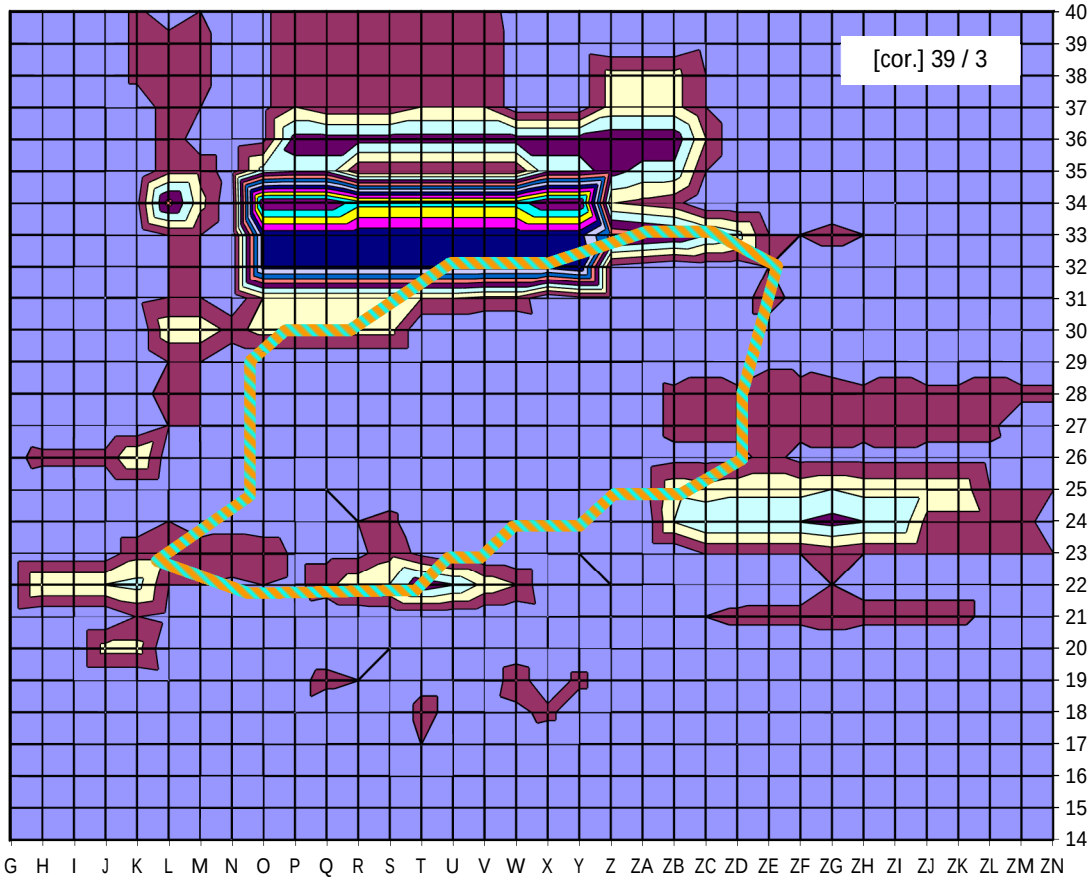


Fig.2.2-98: Distribution of <J3/007l/wh> and <J3/007s/wh>.

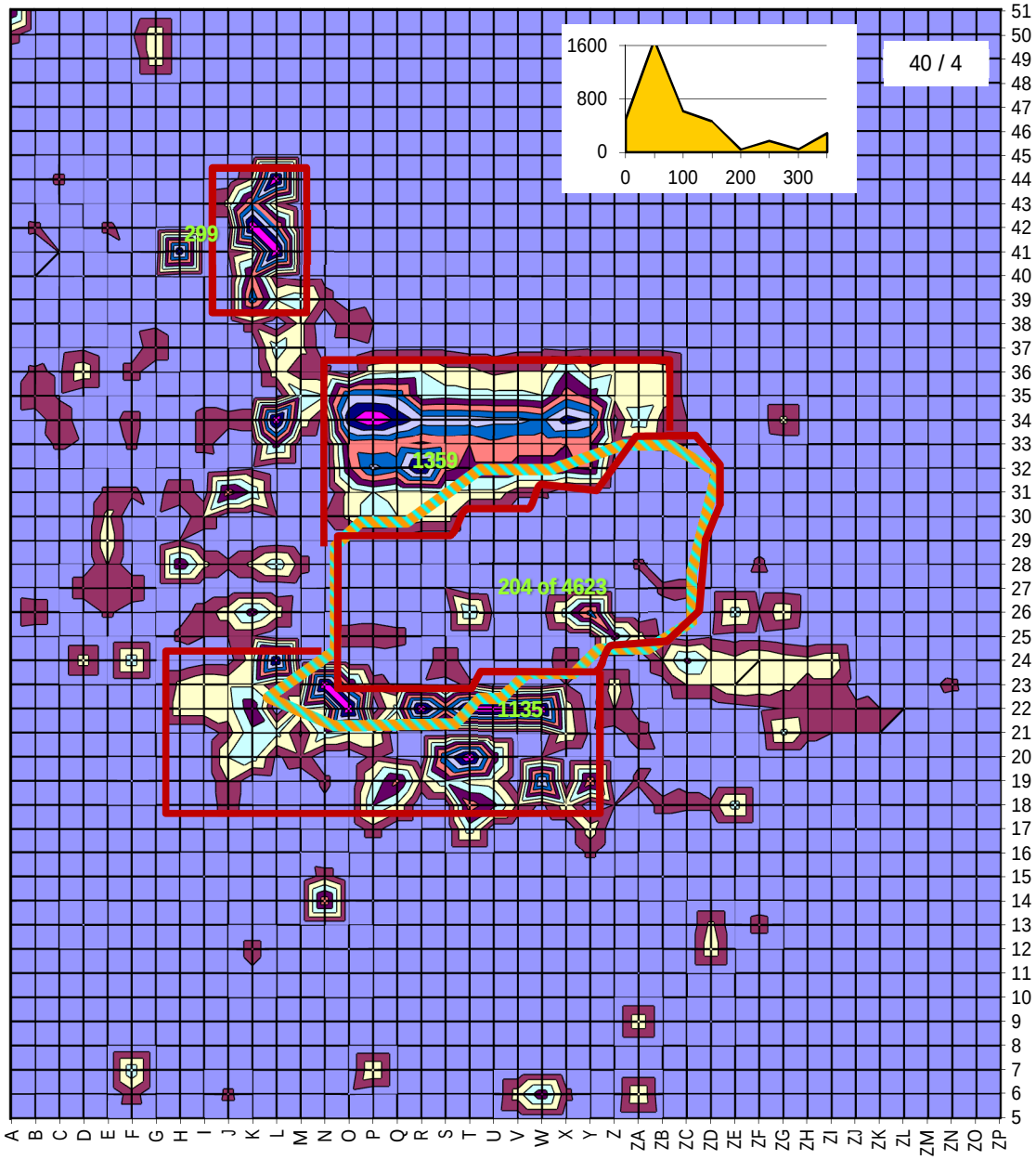


Fig.2.2-99: Uncorrected distribution plot of all vessels registered as <J3*/wh>/<J3/loc>.

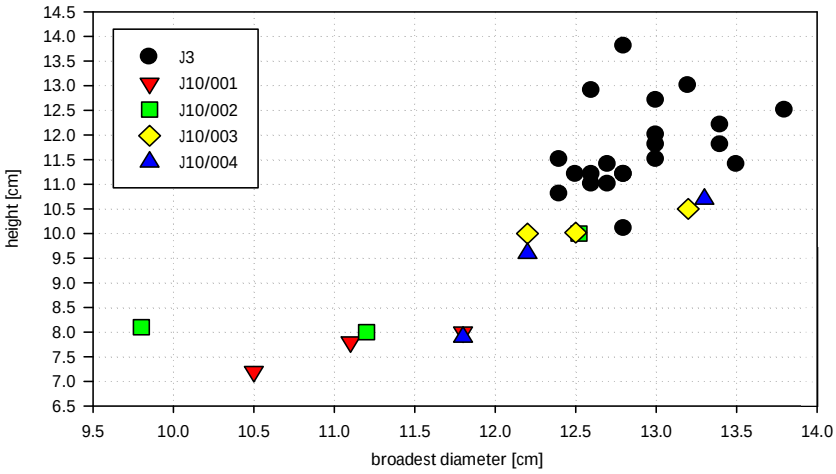


Fig.2.2-100: Measurements reported for subgroups of <J10*/wh> and <J3/wh>.

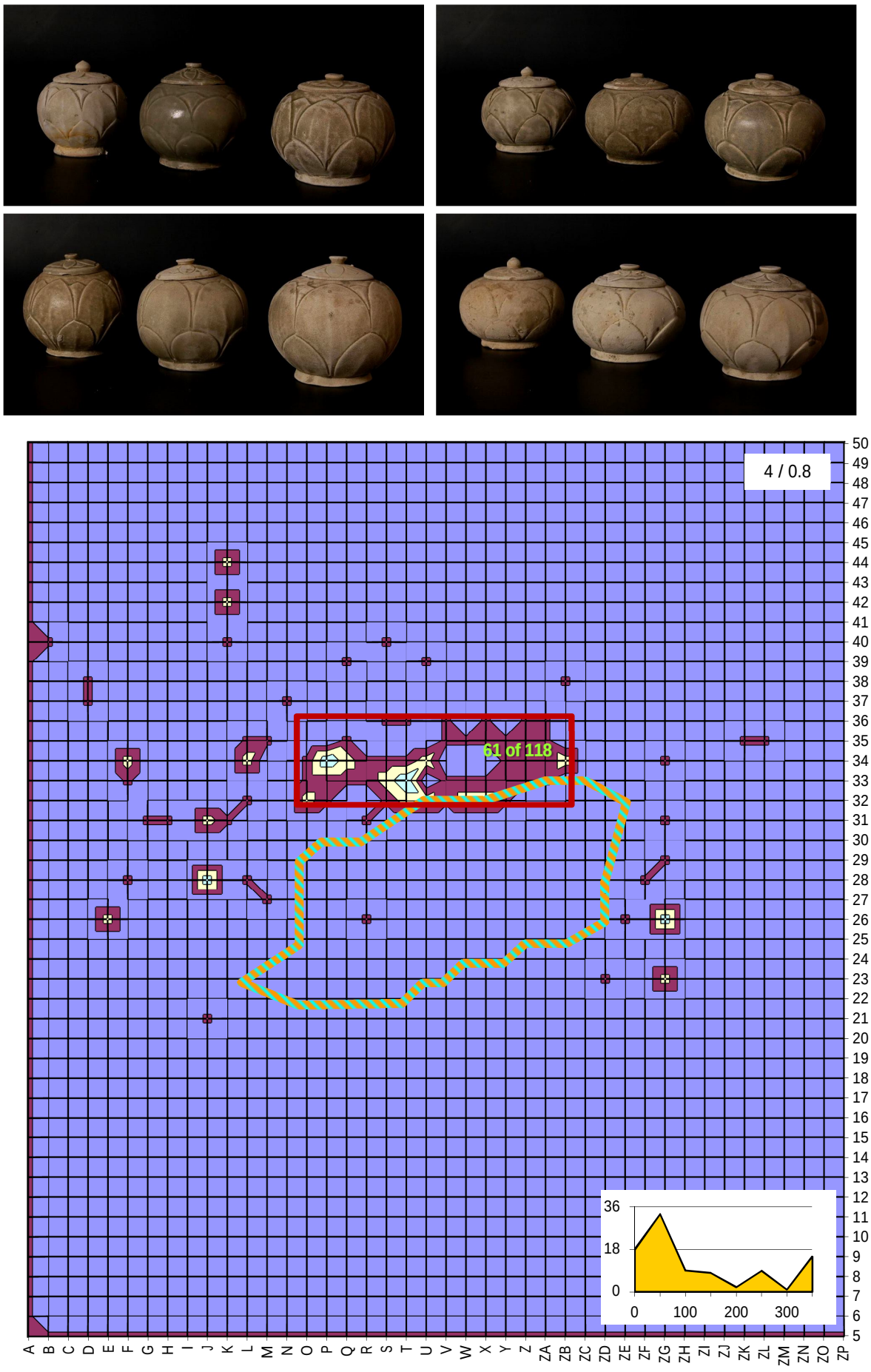


Fig.2.2-101: Example photographs and uncorrected distribution plot of <J10*/wh>.

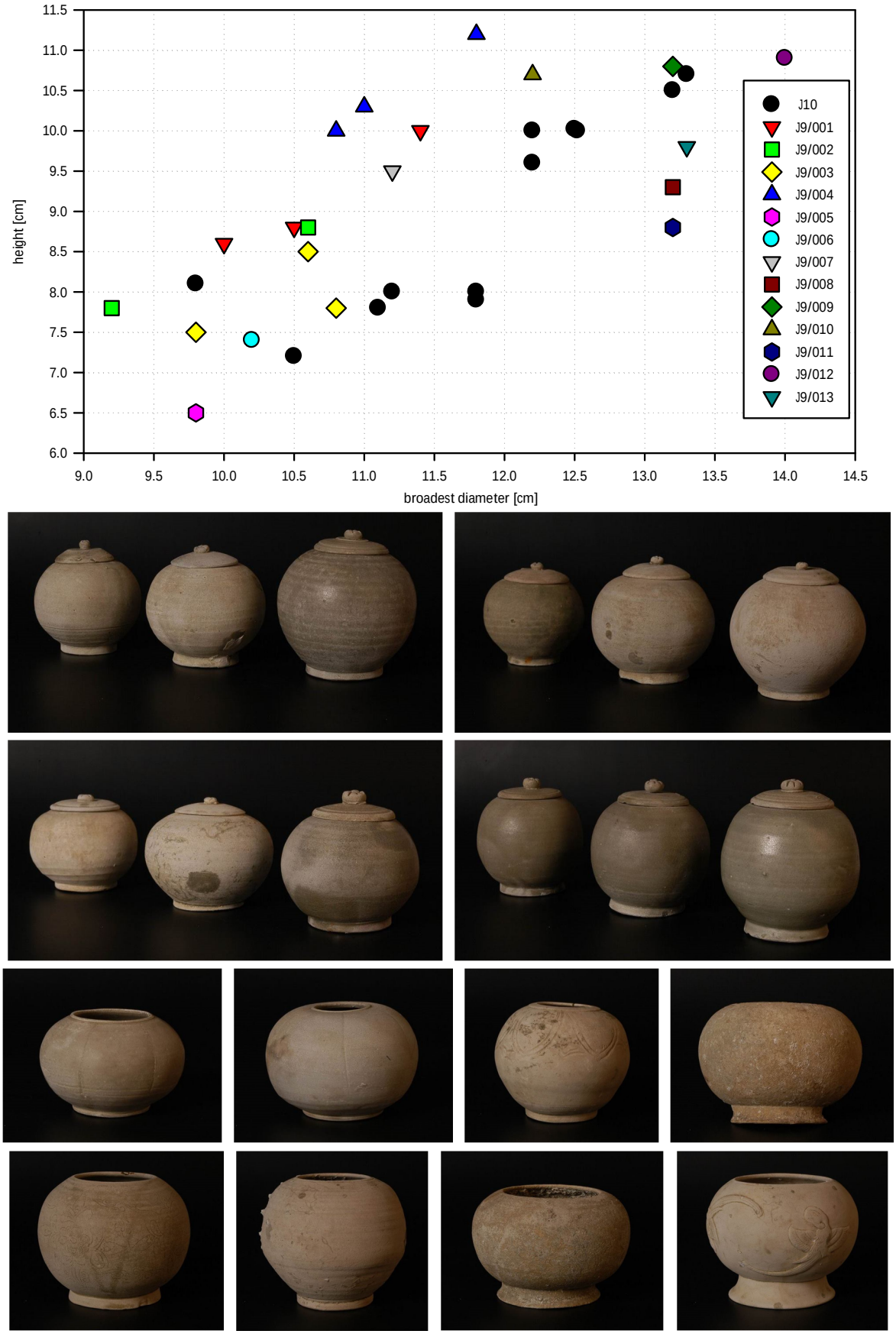
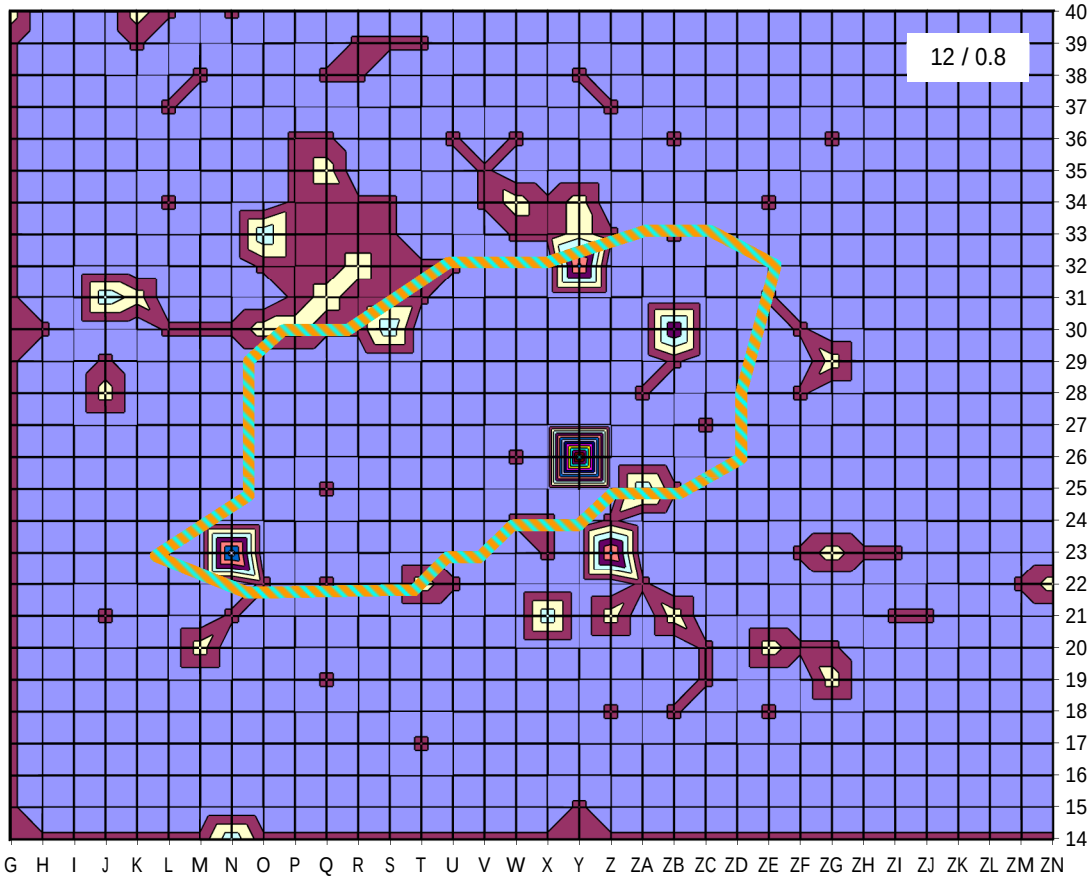


Fig.2.2-102: <J9*/wh>, size ranges and example photographs. From above left to bottom right: <J9/001*>, 61 objects; <J9/002*>, 72; <J9/003*>, 11; <J9/004*>, 29; <J9/005-7>, 1; <J9/008>, 4; <J9/009>, 1; <J9/010>, 19; <J9/0011-12>, 1.



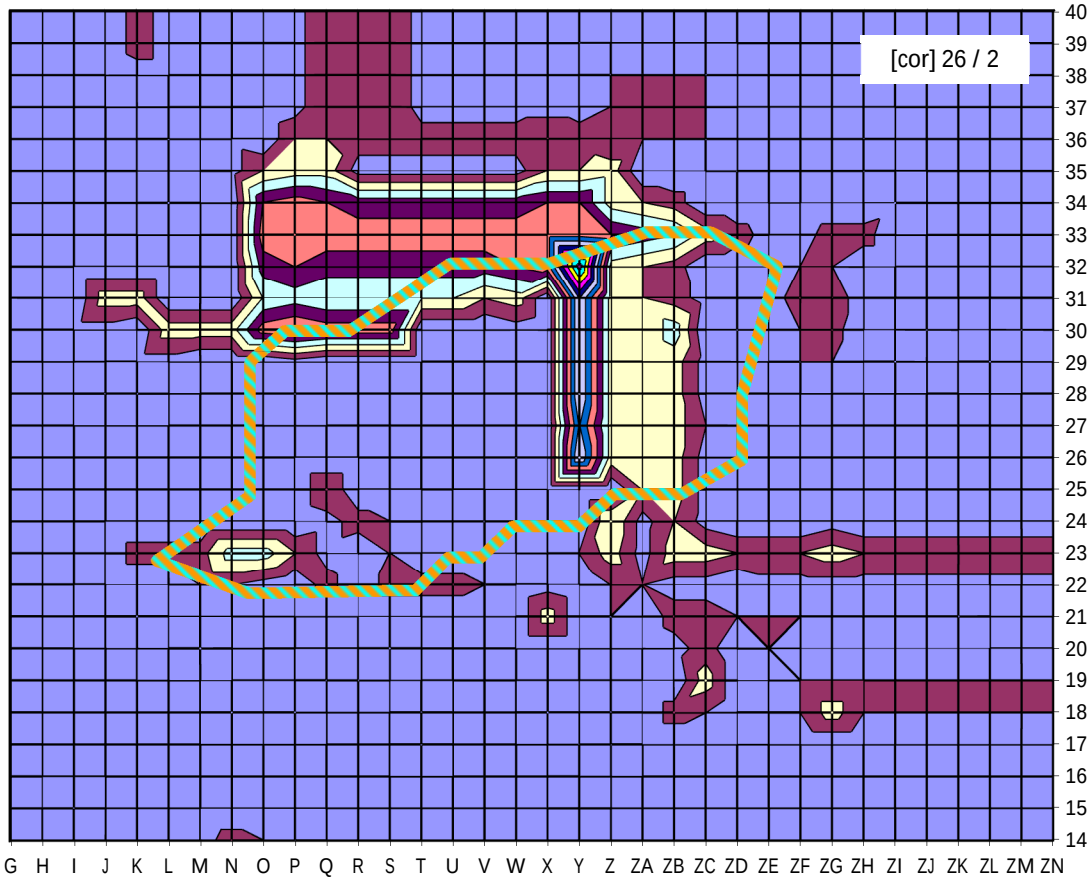


Fig.2.2-103: Distribution of <J9*/wh>.

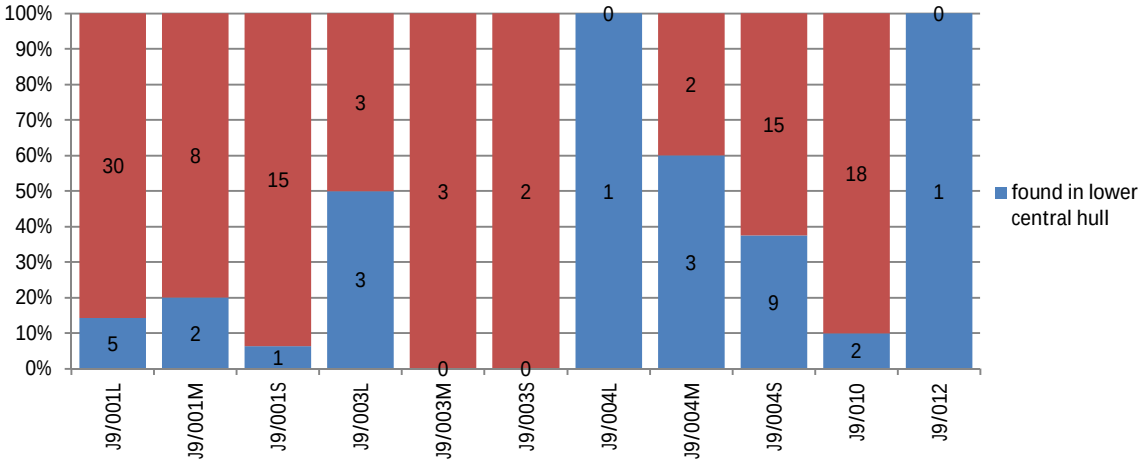


Fig.2.2-104: Composition and percentages of major subgroups of <J9*/wh> in concentration over lower central hull.

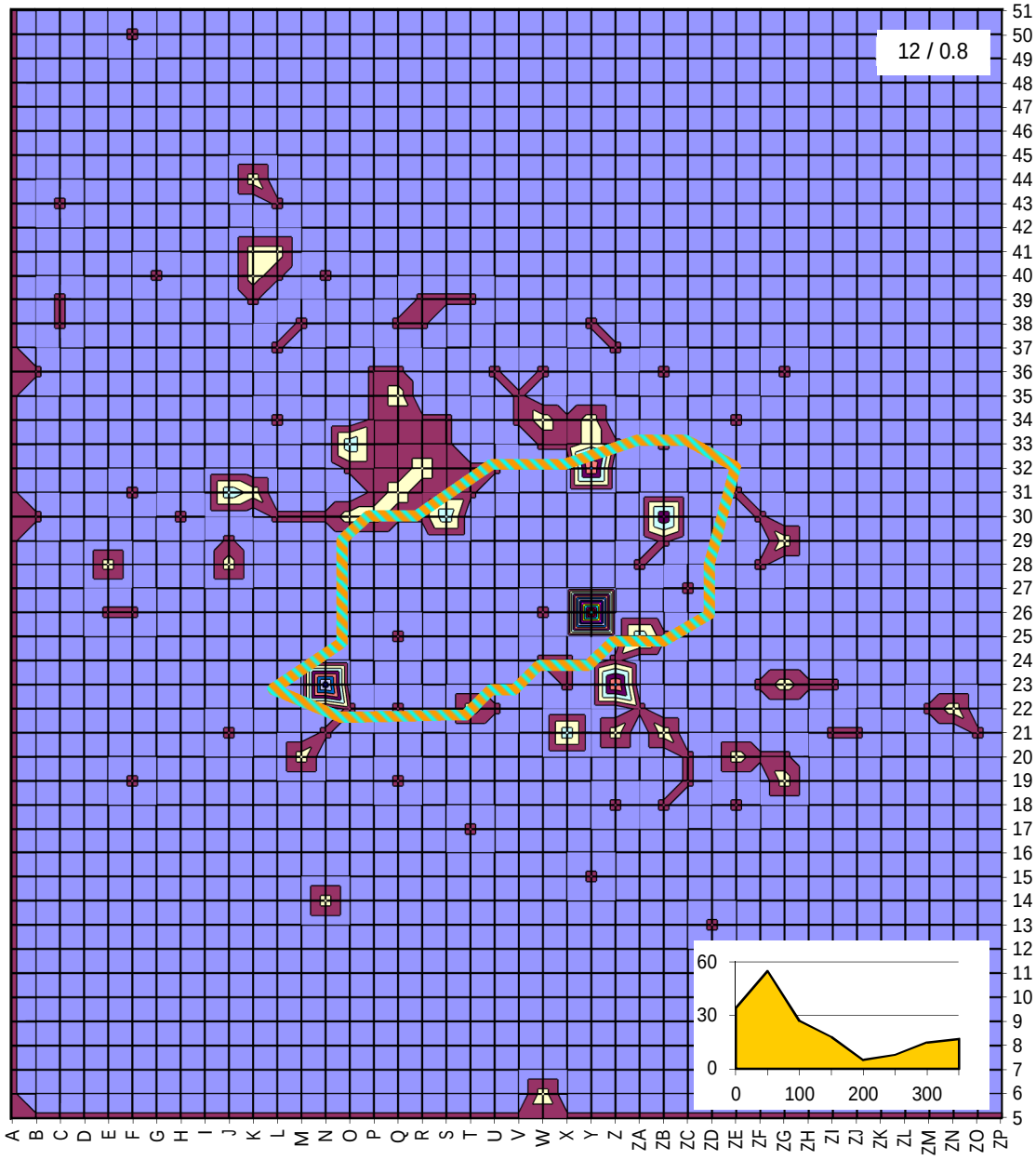


Fig.2.2-105: Uncorrected distribution <J9*/wh>, overall grid.

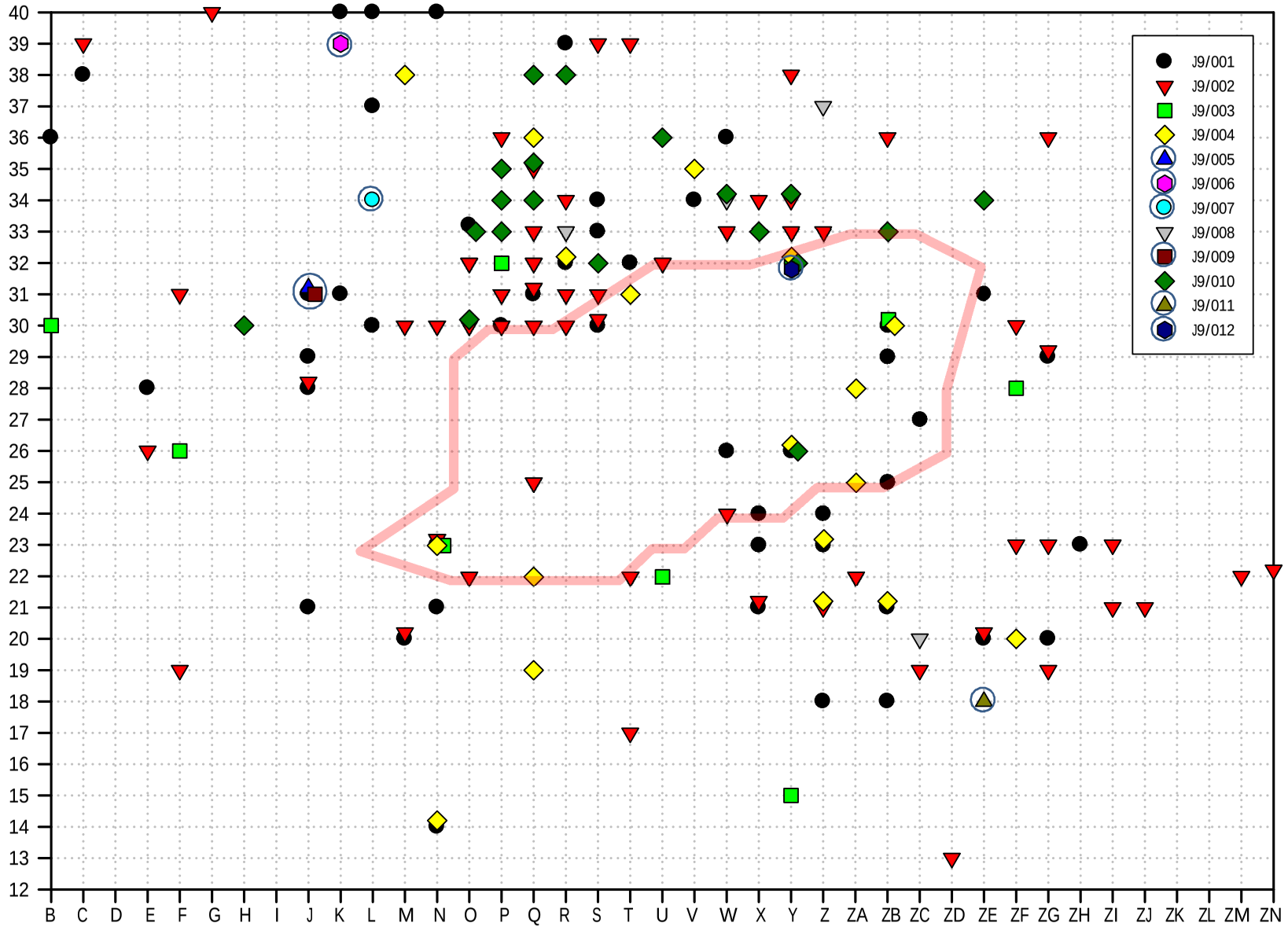


Fig.2.2-106: Distribution of subgroups of <J9*/wh> over the central site.. Single objects marked by blue circles.

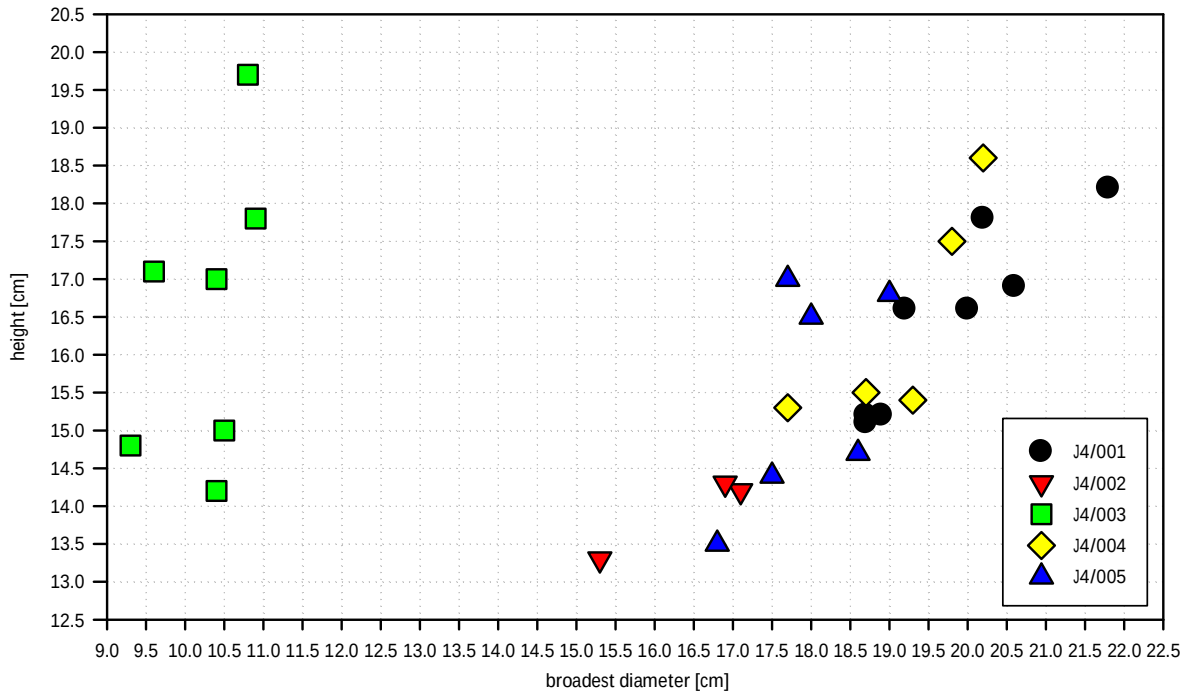
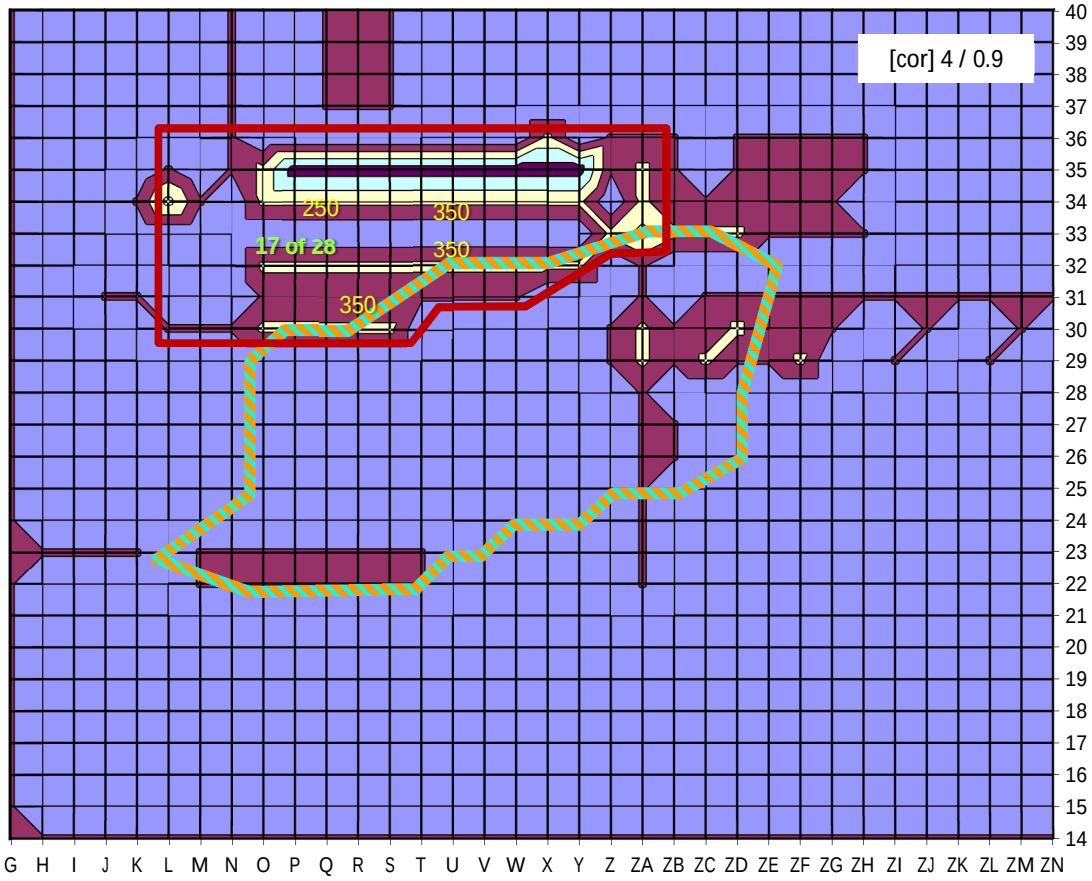


Fig.2.2-107: Measurements and example photographs for major subgroups of <J4/*/wh>. Photographs follow, from above left to bottom right, legend in measurement graph.



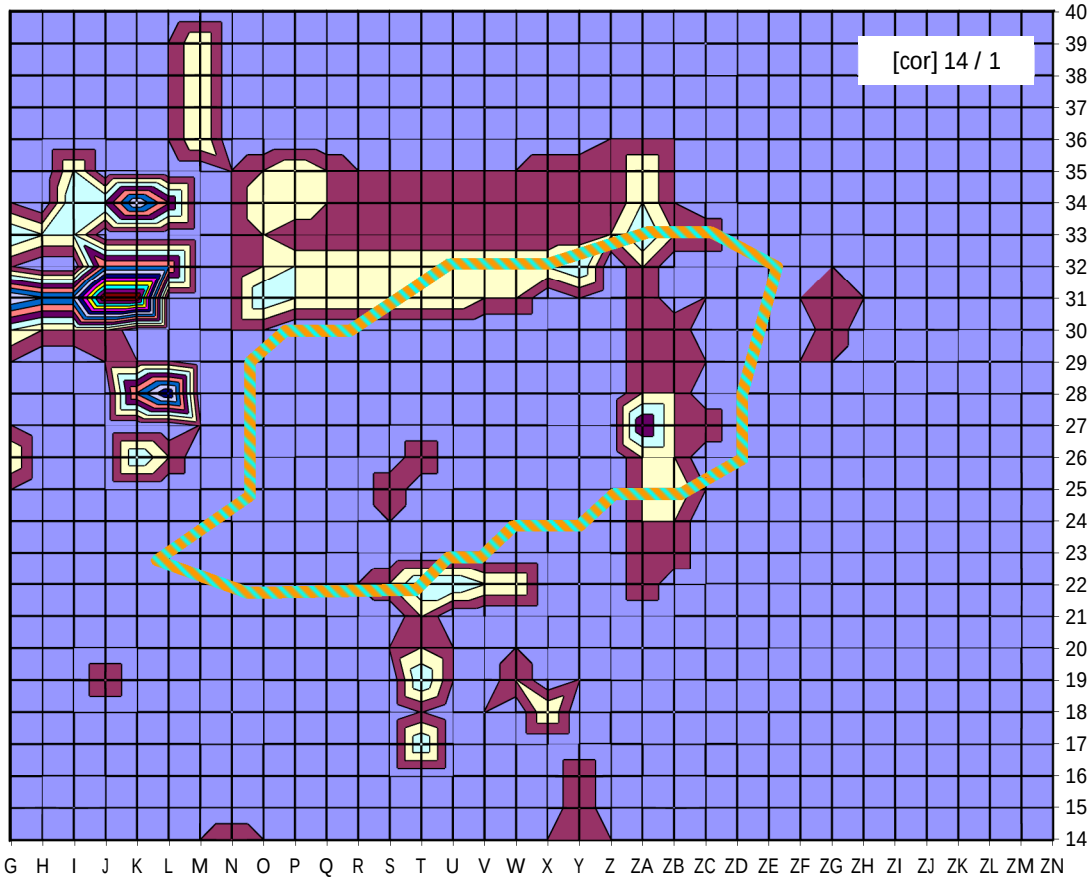


Fig.2.2-108: Distribution of <J4/003*/wh> (above) and remaining subgroups of <J4/wh> (below) over central part of the site.

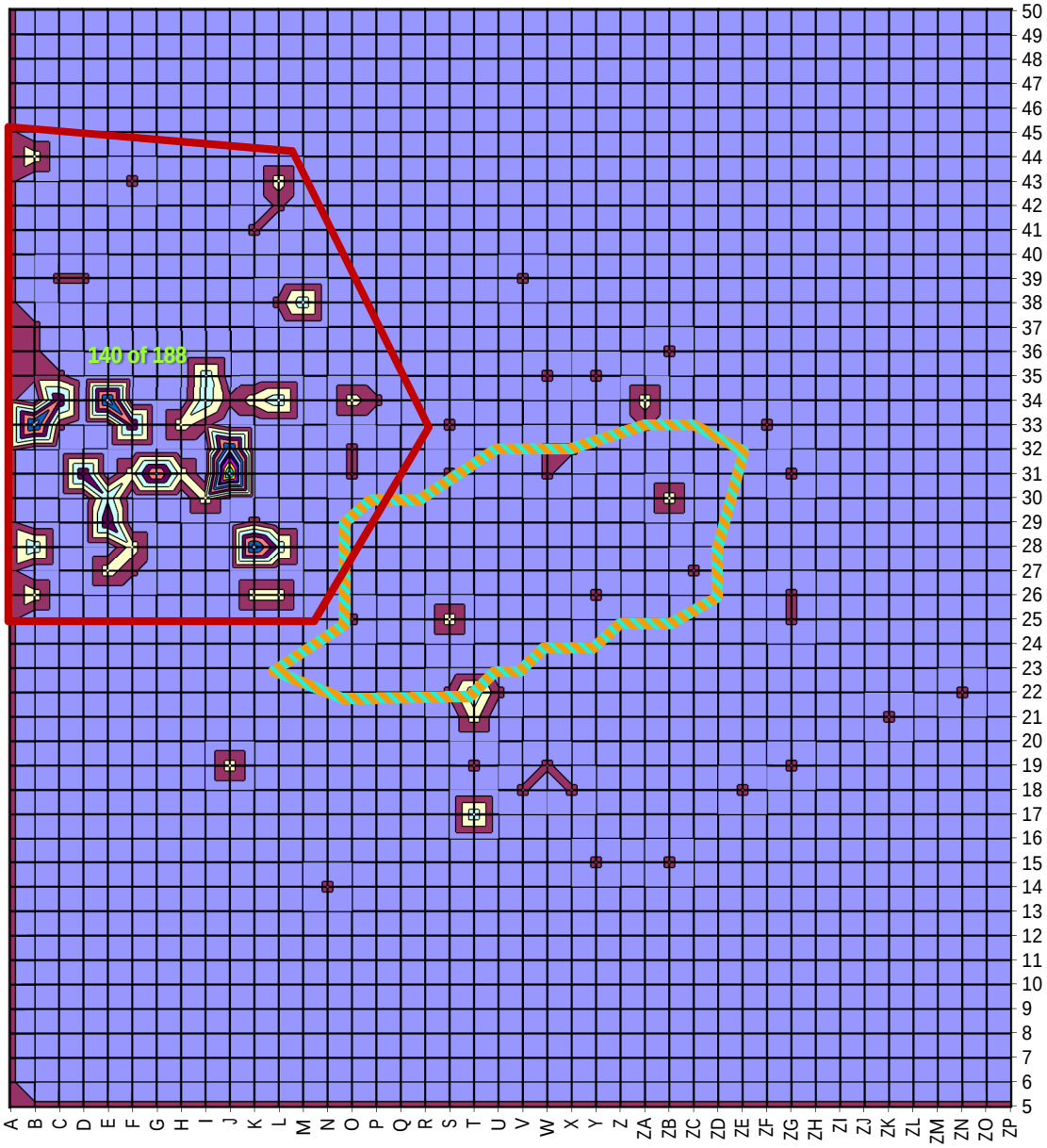


Fig.2.2-109: Uncorrected distribution of <J4/001,2,4,5*/wh>.

Fig.2.2-110: Example photographs of, from above left to blow right, <J1, 7, 19, 21, 24, 25, 27/wh>.

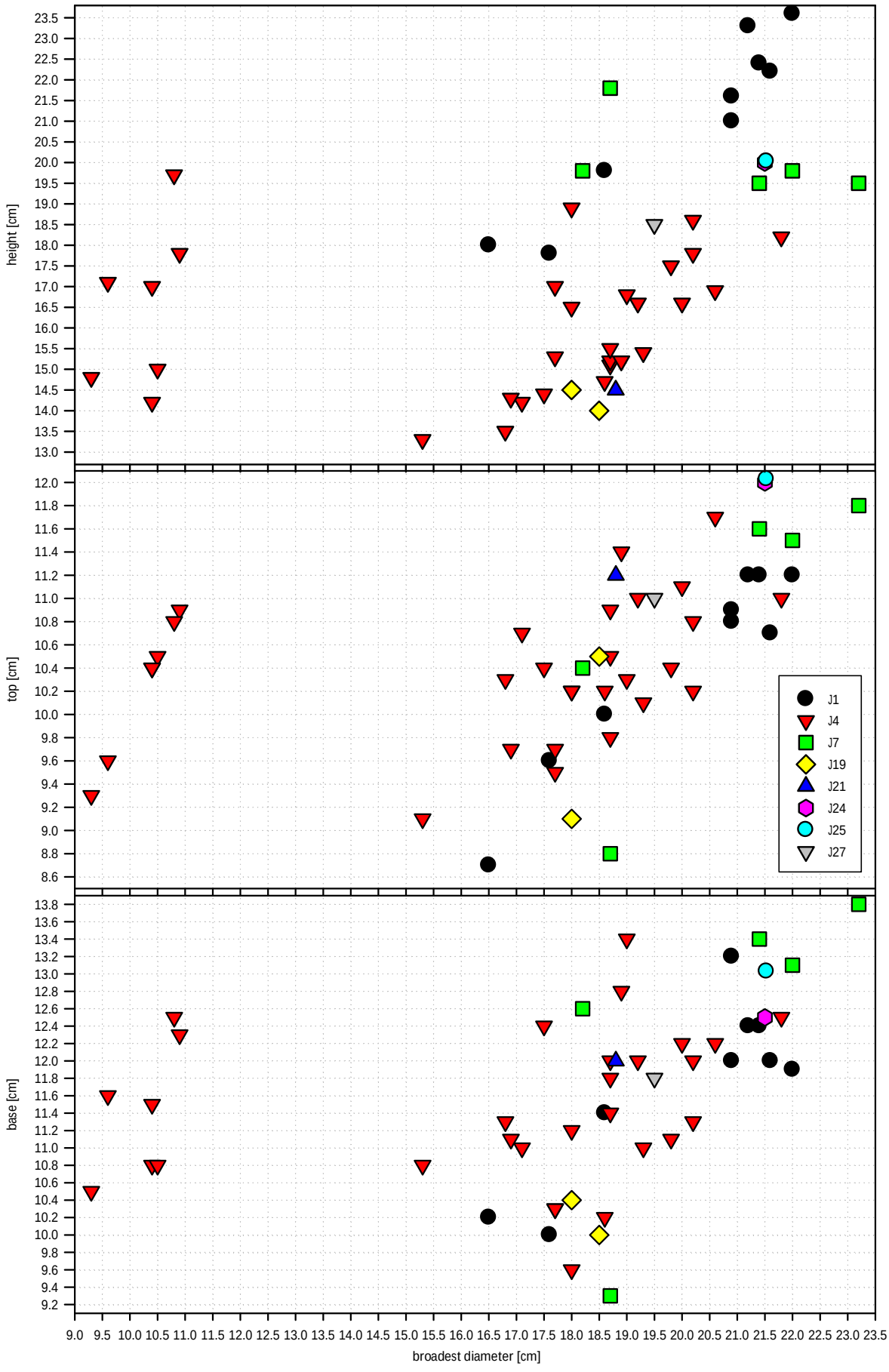


Fig.2.2-111: Reported measurements of waregroups in previous figures.

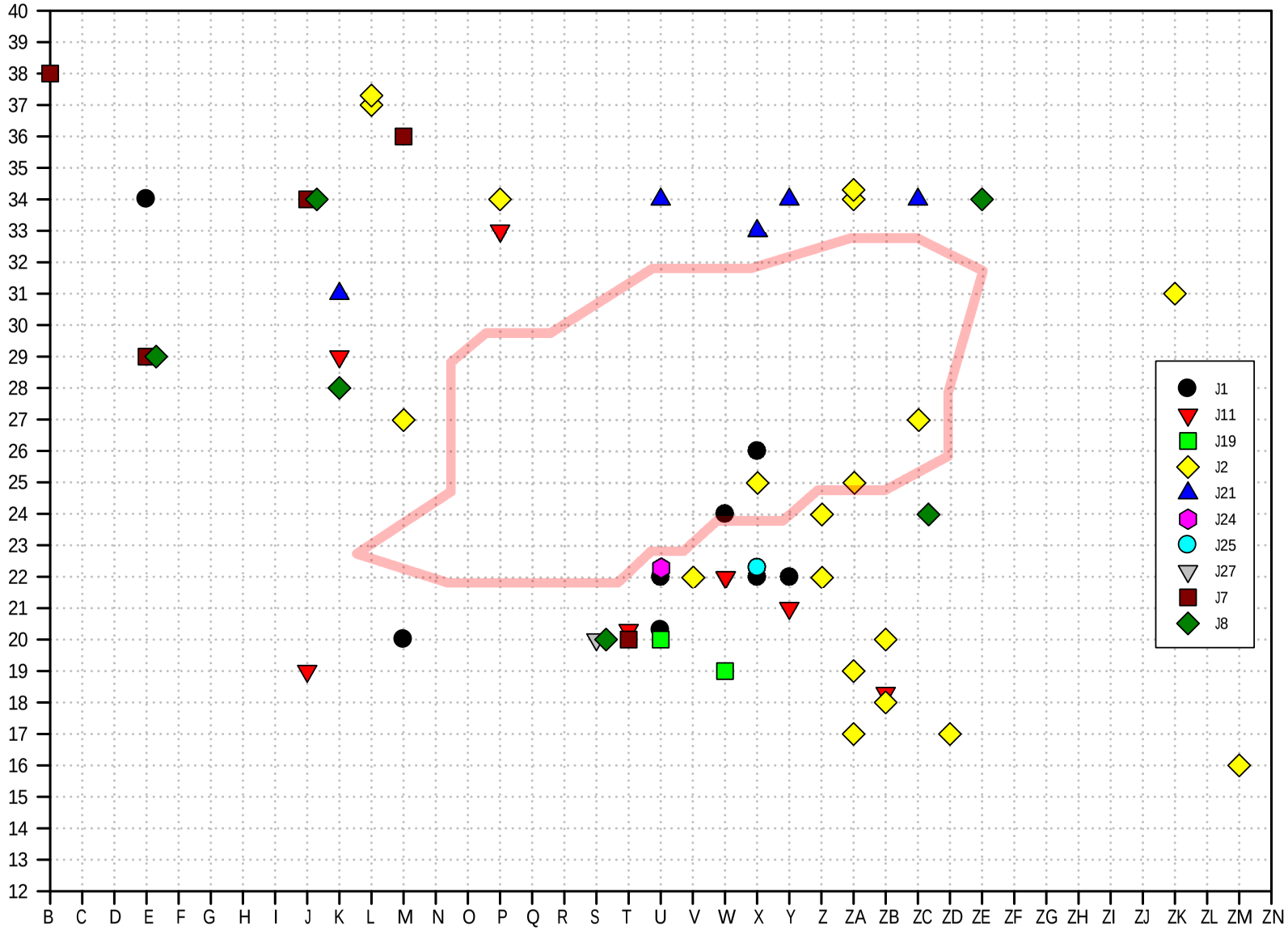


Fig.2.2-112: Uncorrected distribution of waregroups comparable to <J4/wh> and of <J2/wh>, <J8/wh>and <J11/wh> (example photographs in following figures).

Fig.2.2-113: Presumed Yue ware jars, <J2/wh> and <J11/wh>.

Fig.2.2-114: Presumed Guangdong jars, <J8/wh> (above; note the coarse grained clay and crackled glaze), <J9/wh> (centre left), <J42/wh> (centre right), <J32/wh> (bottom left) and <J43/wh> (bottom right).

Fig.2.2-115: Varying shades of glaze on vessels with comparable forms and measurements. From left to right, <SP11,13,14/wh>; compare the small appliqué dots on <SP11/wh> to those on the evidently white-glazed vessel <JS/034/wh>, far right.

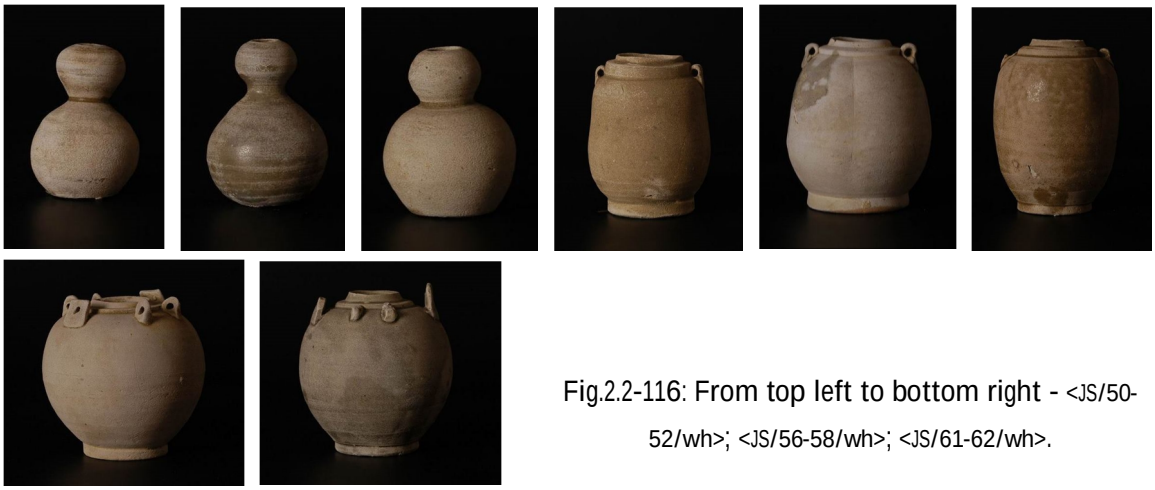


Fig.2.2-116: From top left to bottom right - <JS/50-52/wh>; <JS/56-58/wh>; <JS/61-62/wh>.

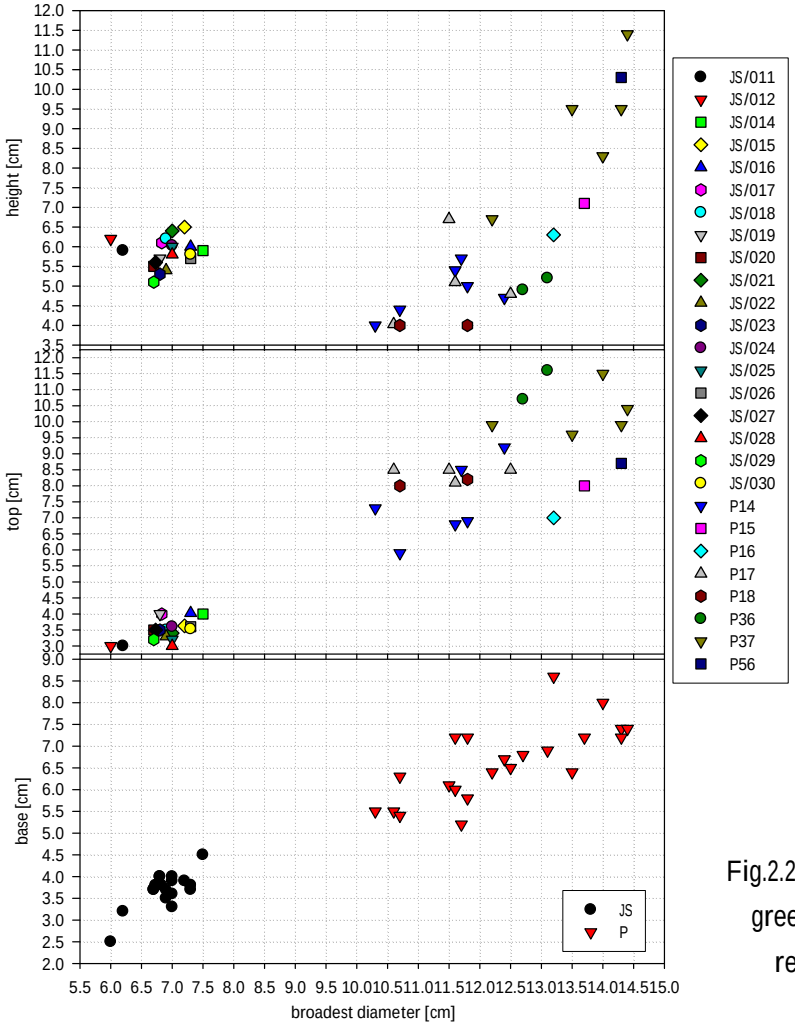


Fig.2.2-117: Measurements for small green-glazed "closed" vessels as reported in <wh> records.

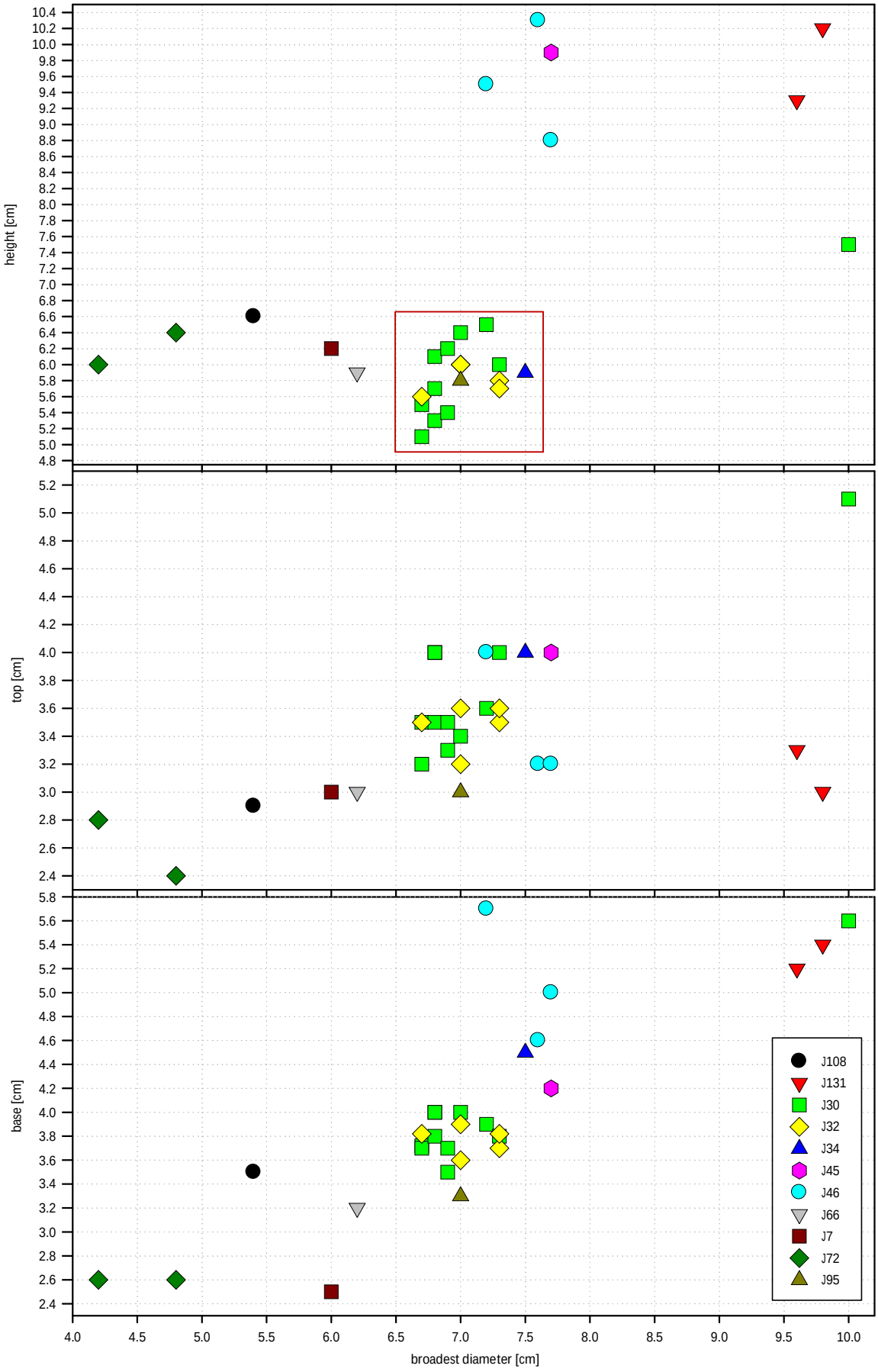


Fig.2.2-118: <wh> measurements for green-glazed 'small jars' and their <loc> categorisations.

Fig.2.2-119: Example photographs of <wh> waregroups in the cluster marked in the previous figure and corresponding <loc> categorisations.

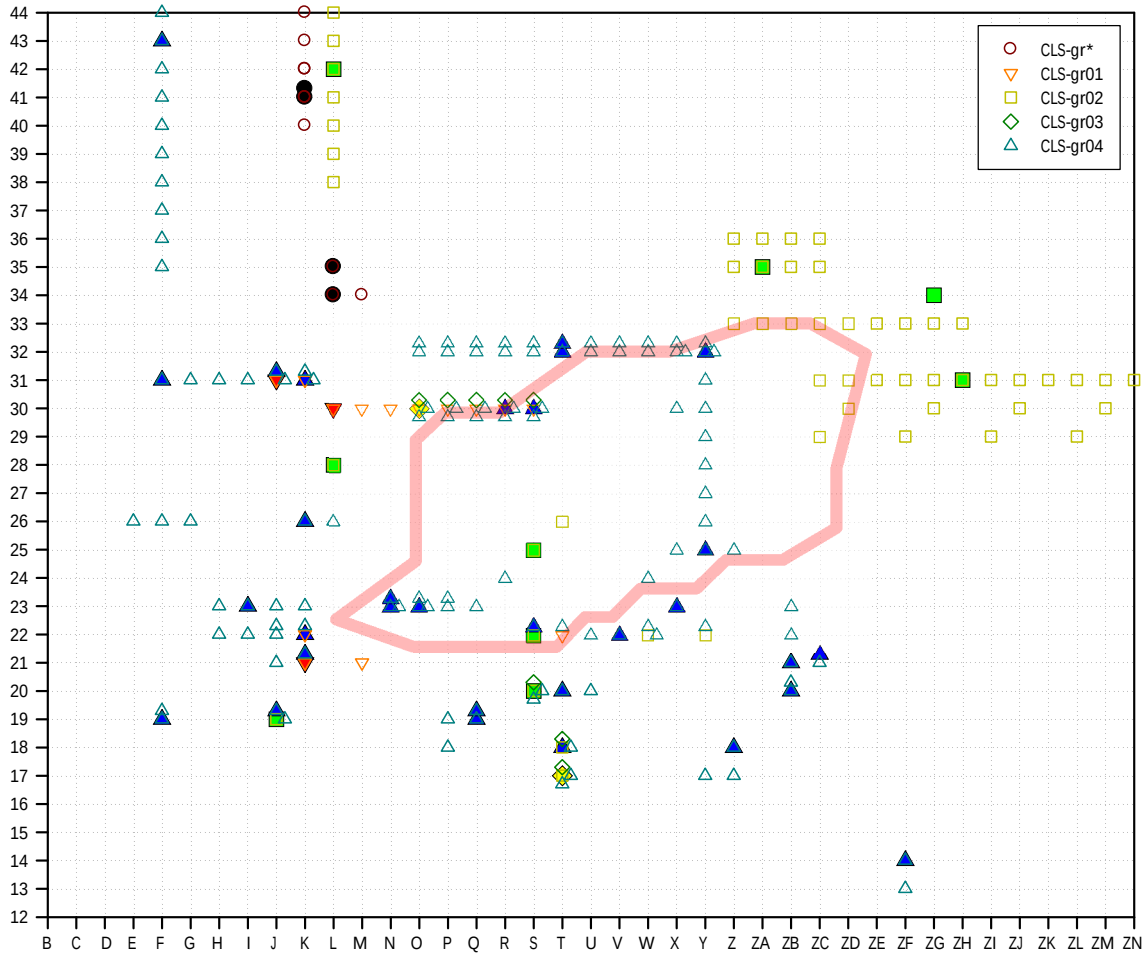


Fig.2.2-120: Corrected distribution of <CLS/gr01-4>. The small number of entries allows to represent actual counts; original entries are filled, "correcting additions" outlined only.

Fig.2.2-121: Vessels with shapes and sizes comparable to <CLS/gr02> and <CLS/gr04>, Karawang find.

Fig.2.2-122: Example photograph for <P04/wh> (left); comparable vessels, Karawang find.

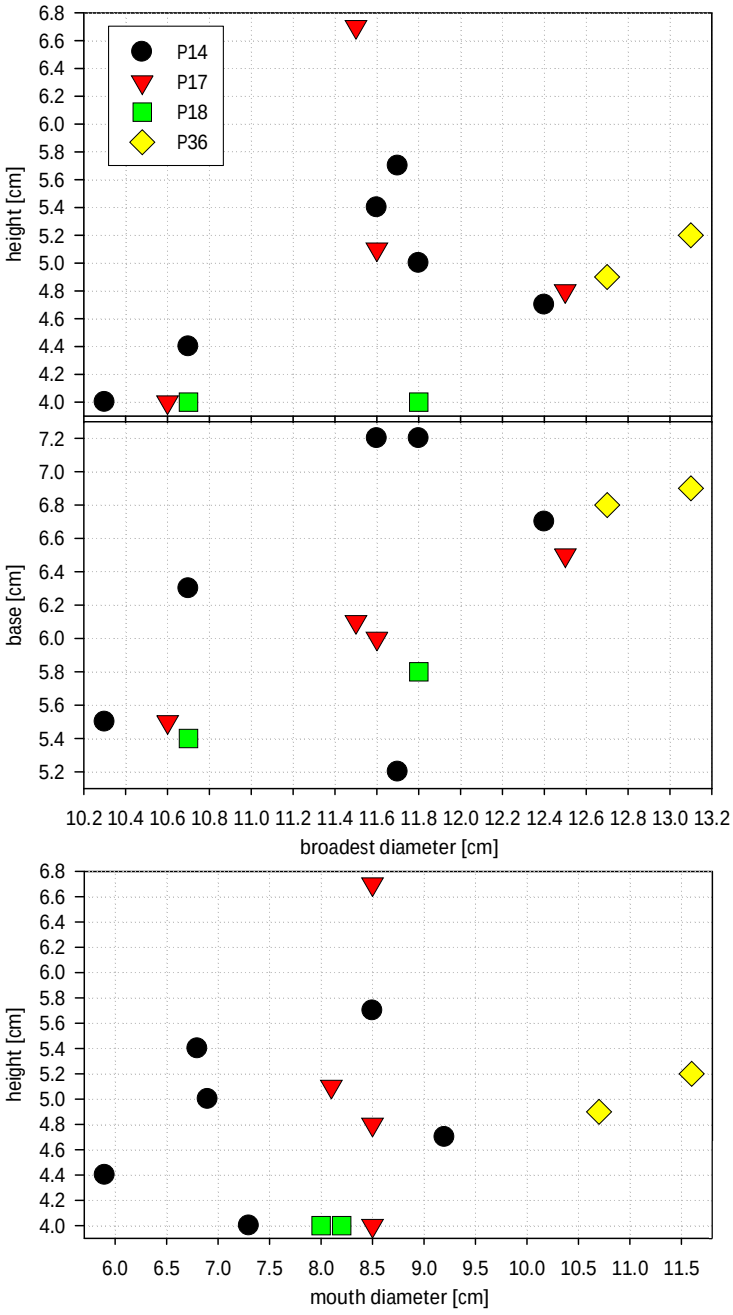


Fig.2.2-123: Measurements and example photographs for green-glazed 'depressed pots'; for <P14*/wh> see previous figure.

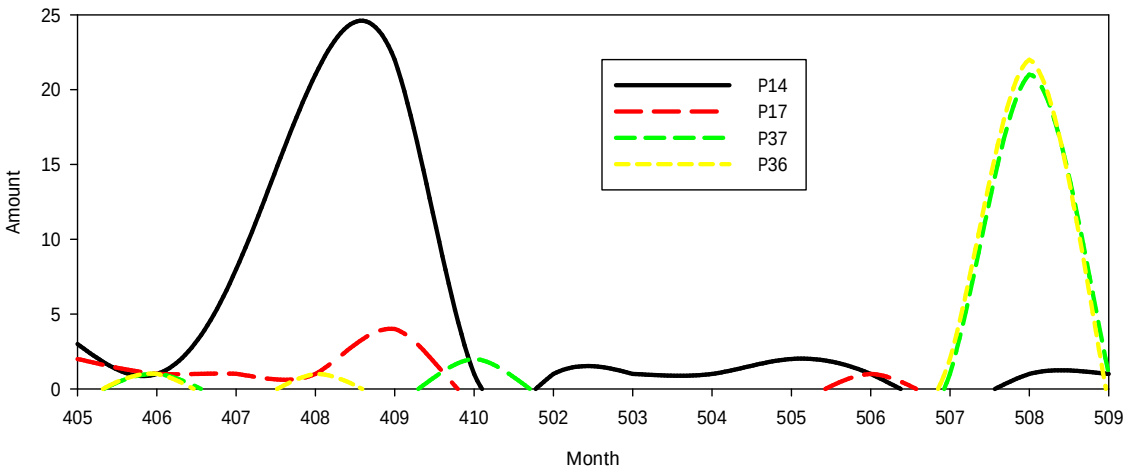


Fig.2.2-124: Totals of objects retrieved per month.

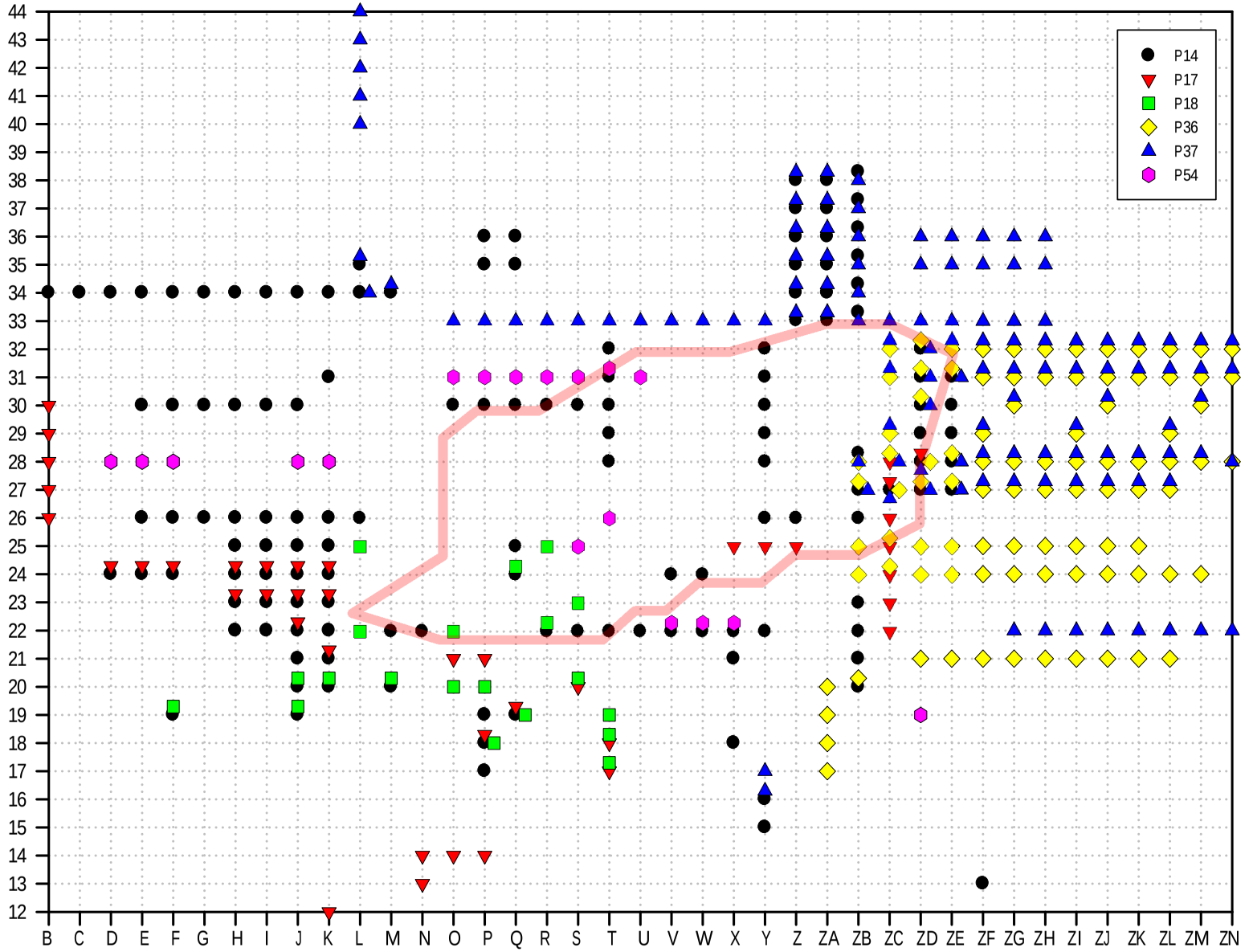


Fig.2.2-125: Distribution pattern of green-glazed ‘pots’.

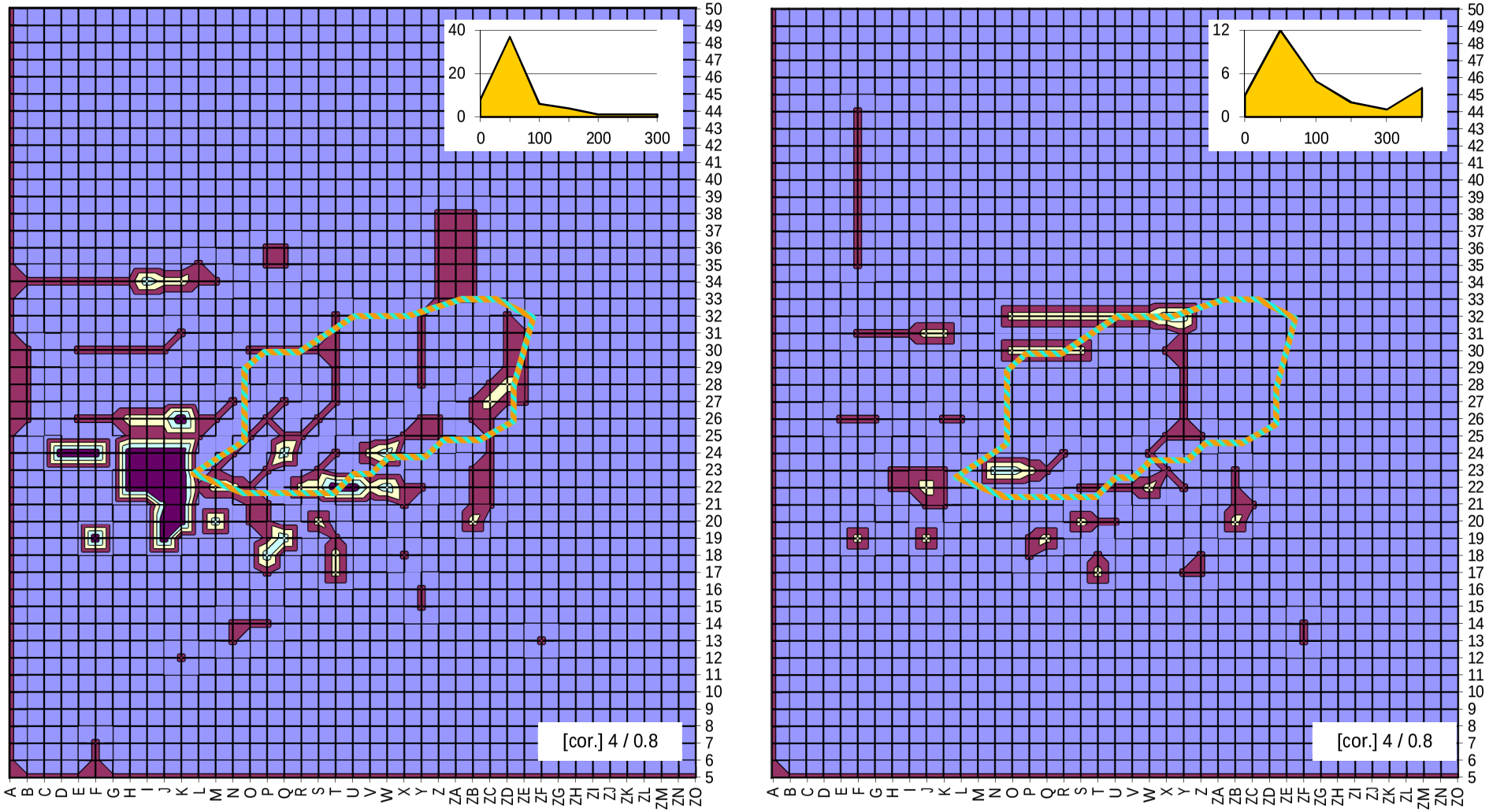


Fig.2.2-126: Distribution of <CLS-gr05> (left) and <CLS-gr04> (right).

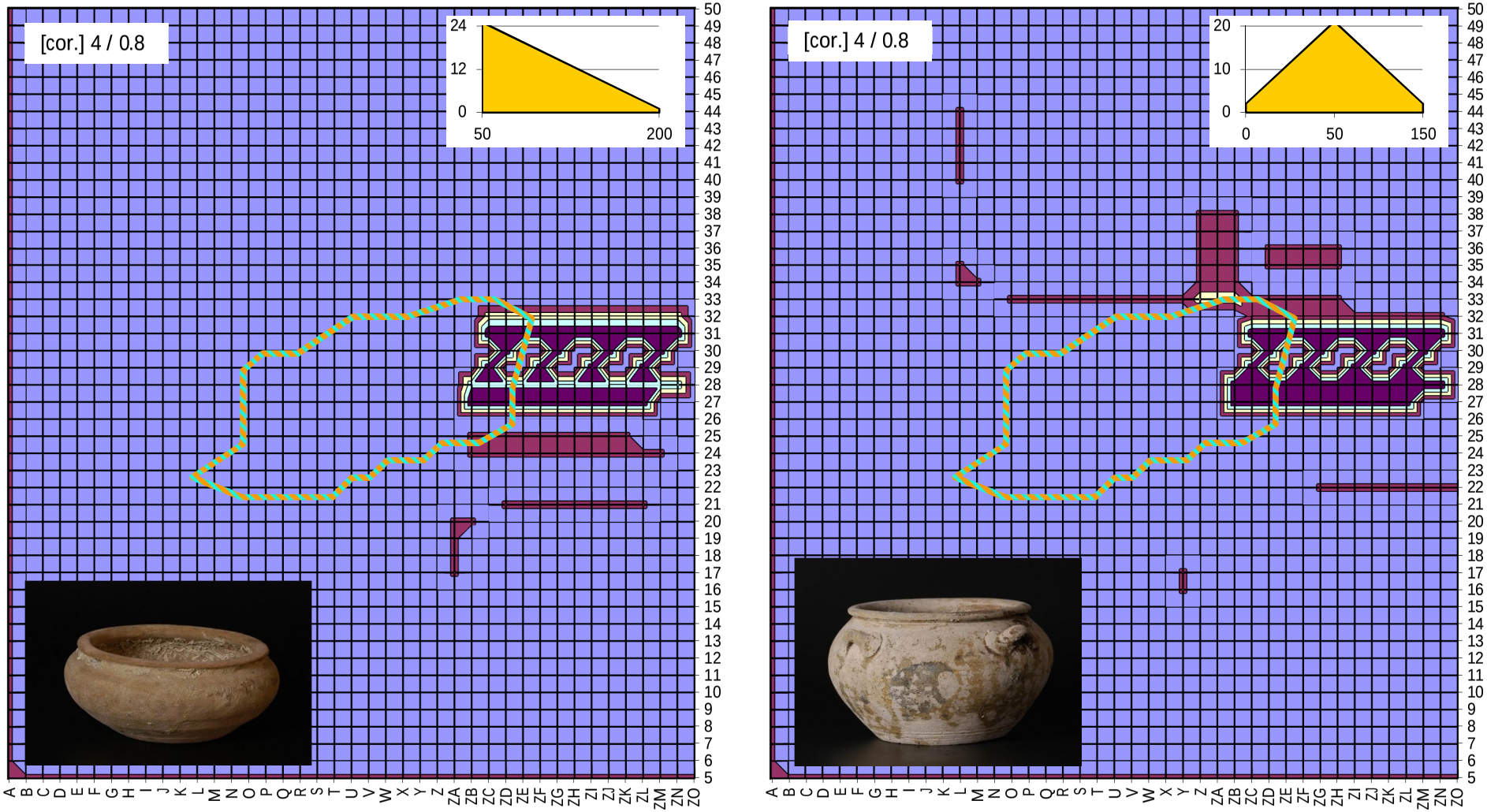


Fig.2.2-127: Distribution and example photographs of <P36/wh> (left) and <P37/wh> (right).

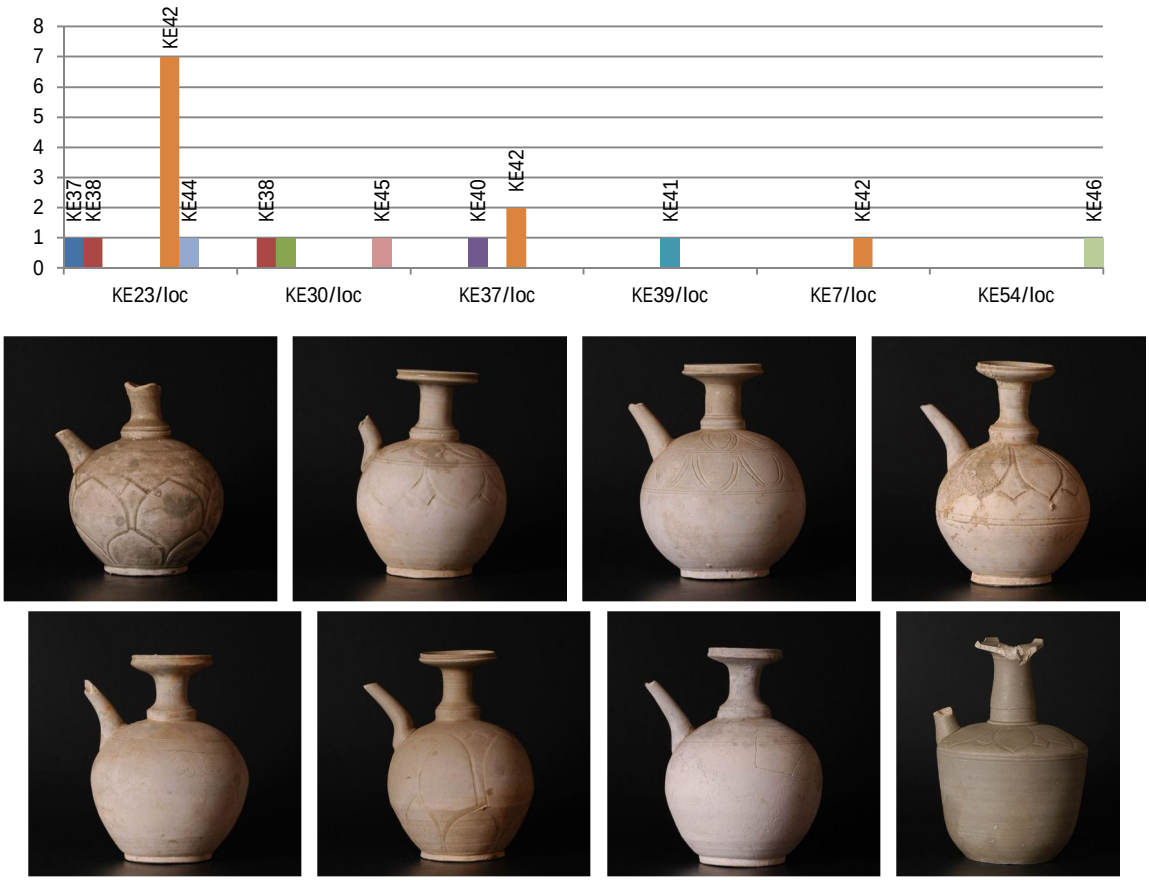


Fig.2.2-128: <loc> and <wh> categorisations of Yue-type kendi; example photographs of, from above left to bottom right, <KE37-43, 46/wh>.

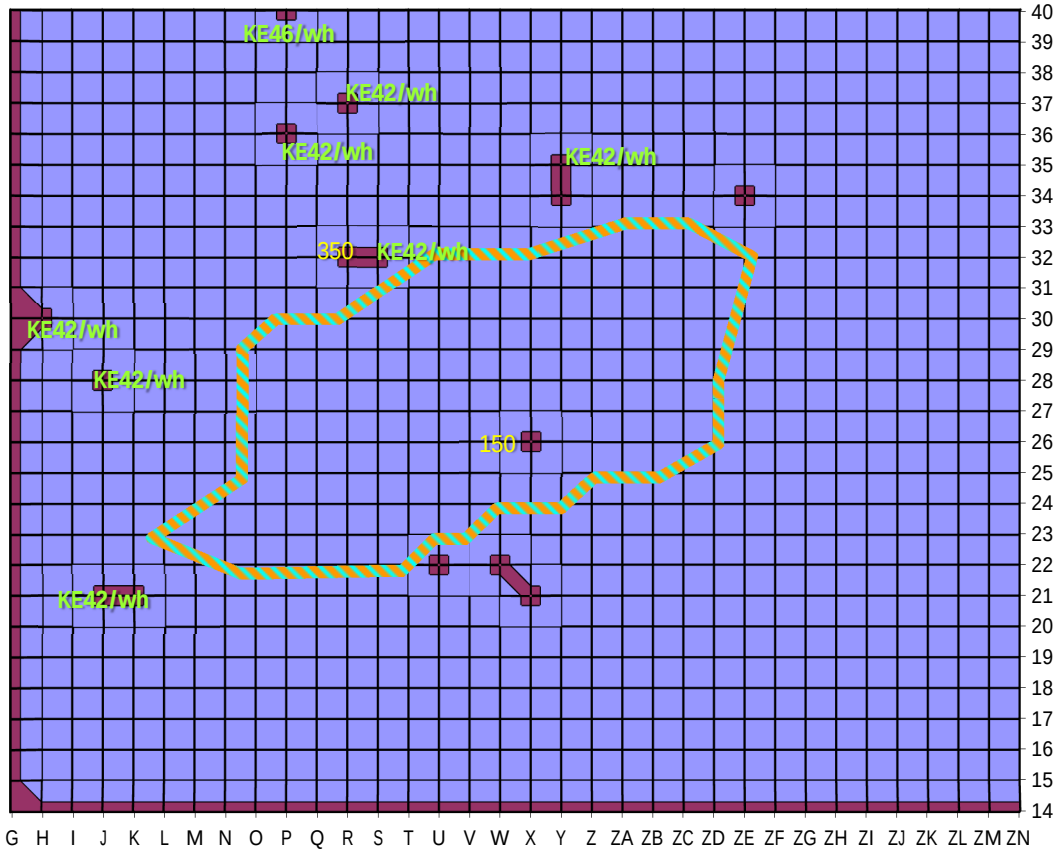
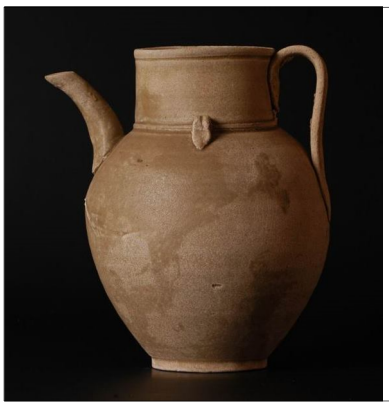


Fig.2.2-129: Distribution of green-glazed kendi over the central section of the site.



'... spherical or ovoid body and a large, cylindrical neck [...]; wide, burnished ring foot [...]; vertical strap handle and a long angled spout [...]; two small applied vertical loops [at] the transition between the shoulder and the neck' - <EW01a>

As above, but 'distinguished by the lobed [petaled] body' - <EW01b>

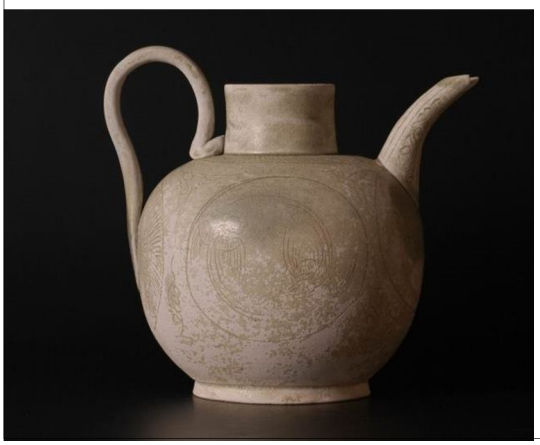
As above, but 'wide neck, flared into a trumpet shape', plain exterior - <EW02a>; smaller sizes (right) - <EW02a/s>

As above, but petaled exterior - <EW02b>

As above, but 'considerably elongated before flaring'; both plain and petaled exteriors - <EW02c>; vessels with broader base - <EW02d>

Fig.2.2-130, cont. …

‘ ... spherical body resting on a ring foot and a short, angled spout. Two pairs of loops on the neck support a flat lid [...] two vertical rectangular protuberances pierced with three round holes, probably to allow the attachment of a mobile handle’; decorated and undecorated - <EW03>



‘... inspired by a metal prototype; [...] spherical body rests on a ring foot; [...] angled spout which rarely extends above their small cylindrical neck, and a high vertical handle; [...] sculpted, moulded’ and incised decorations and plain vessels - <EW04>

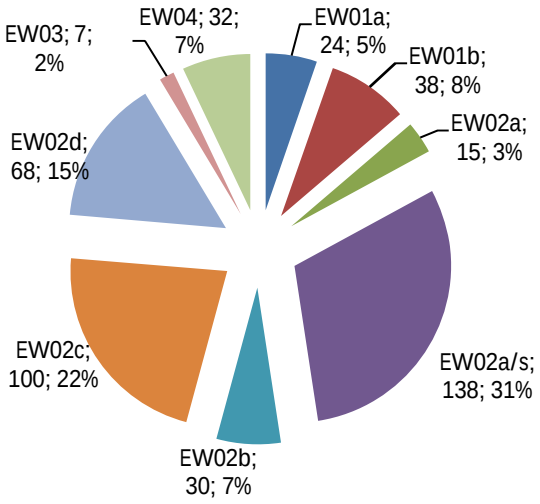


Fig.2.2-130, cont.: Categorisations of green-glazed ewers, following the classifications proposed at http://cirebon.musee-mariemont.be; totals and percentages of vessels/category.

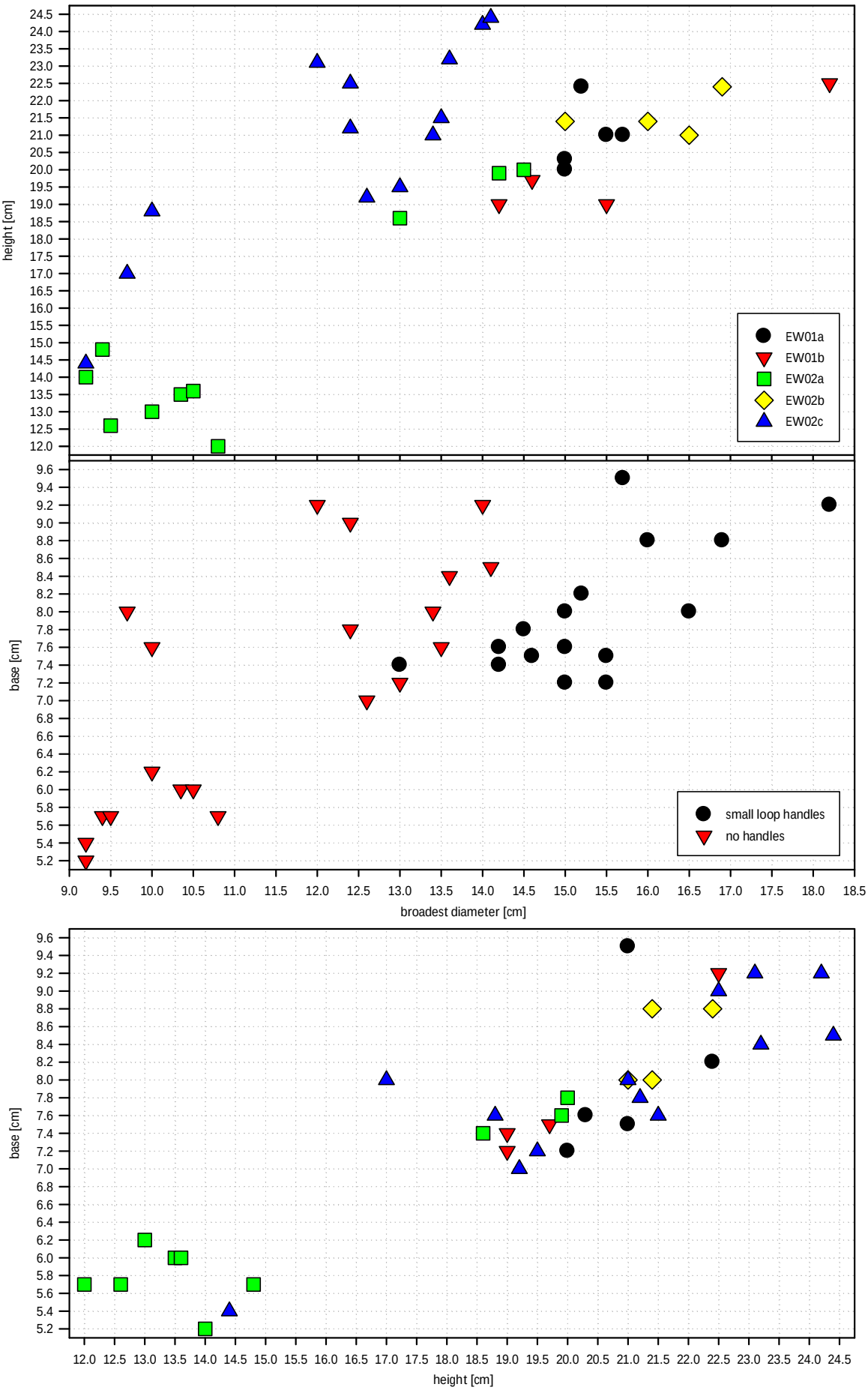


Fig.2.2-131: Measurements of <EW01*> and <EW02*> as reported in <wh> records.

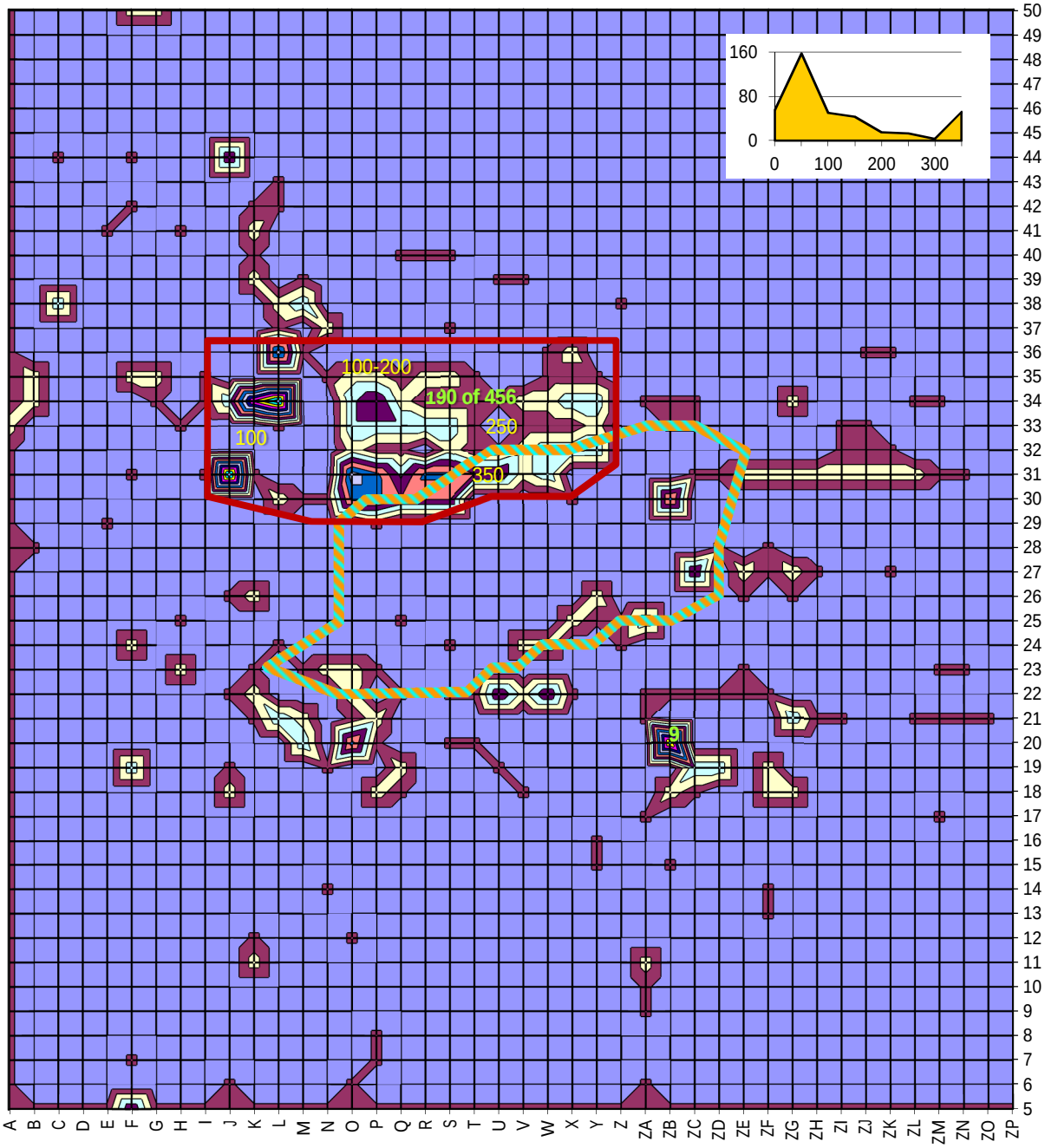


Fig.2.2-132: Distribution of all green-glazed ewers.

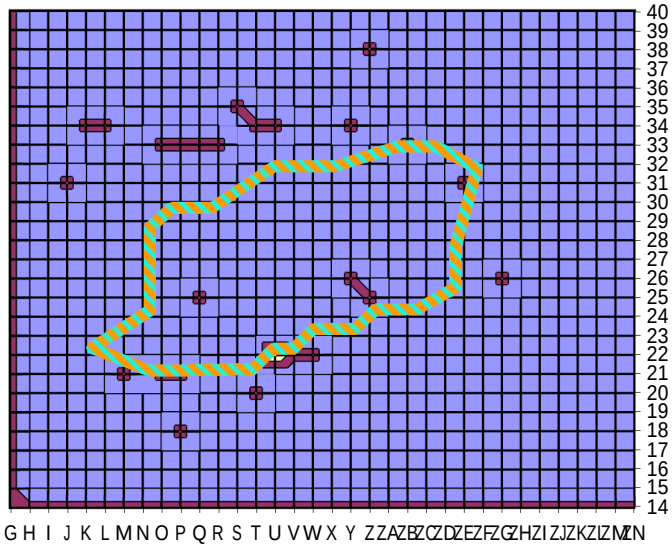
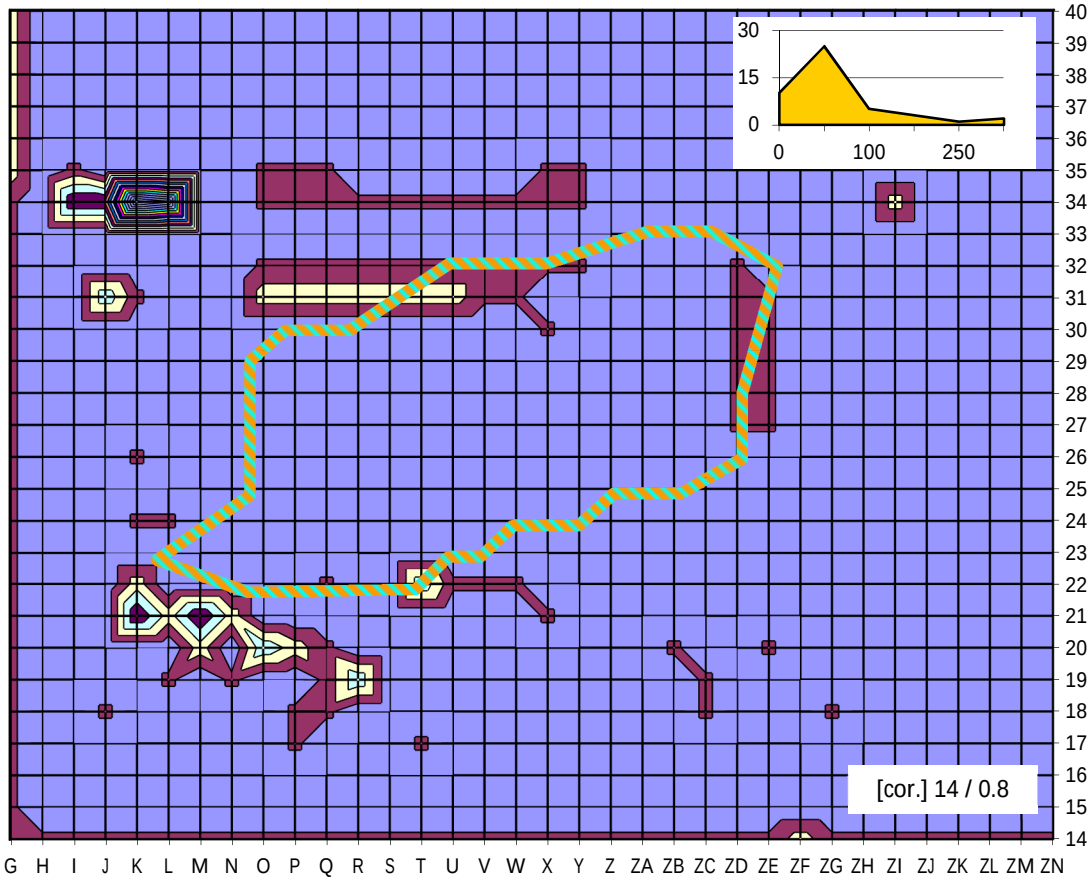


Fig.2.2-133: Distribution of <EW04>.



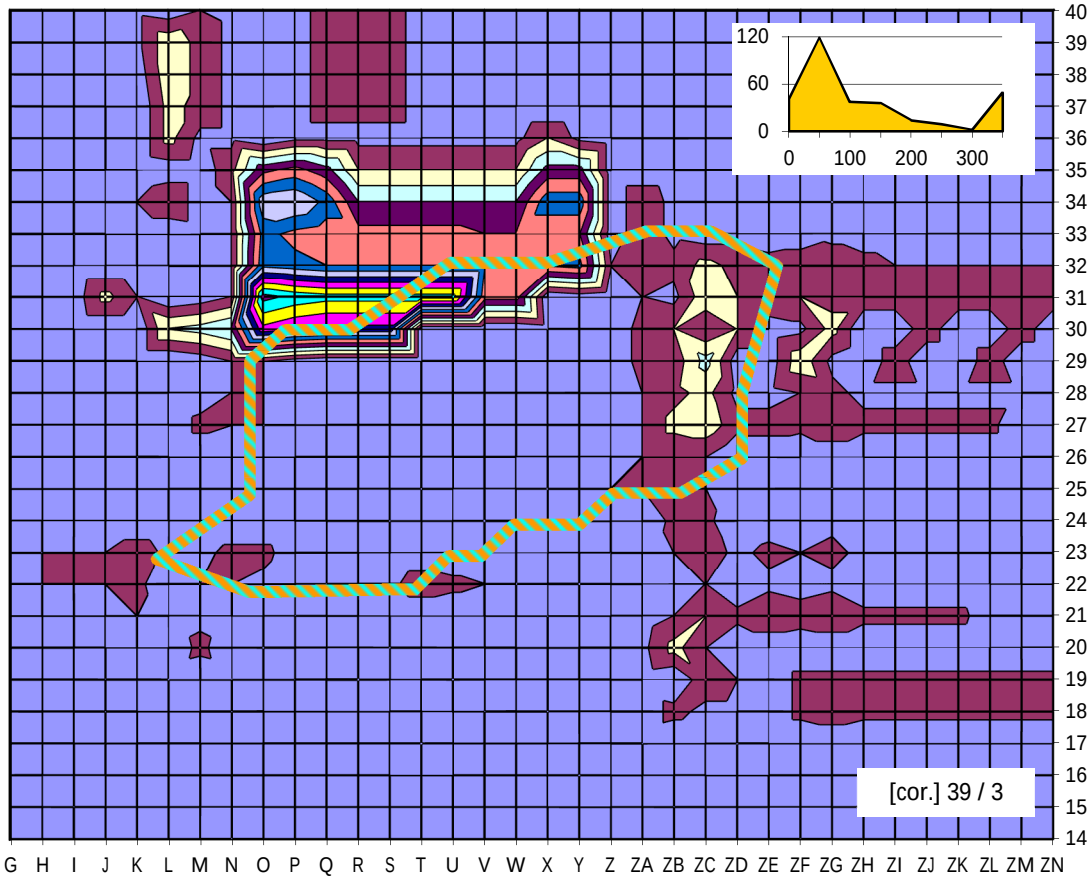
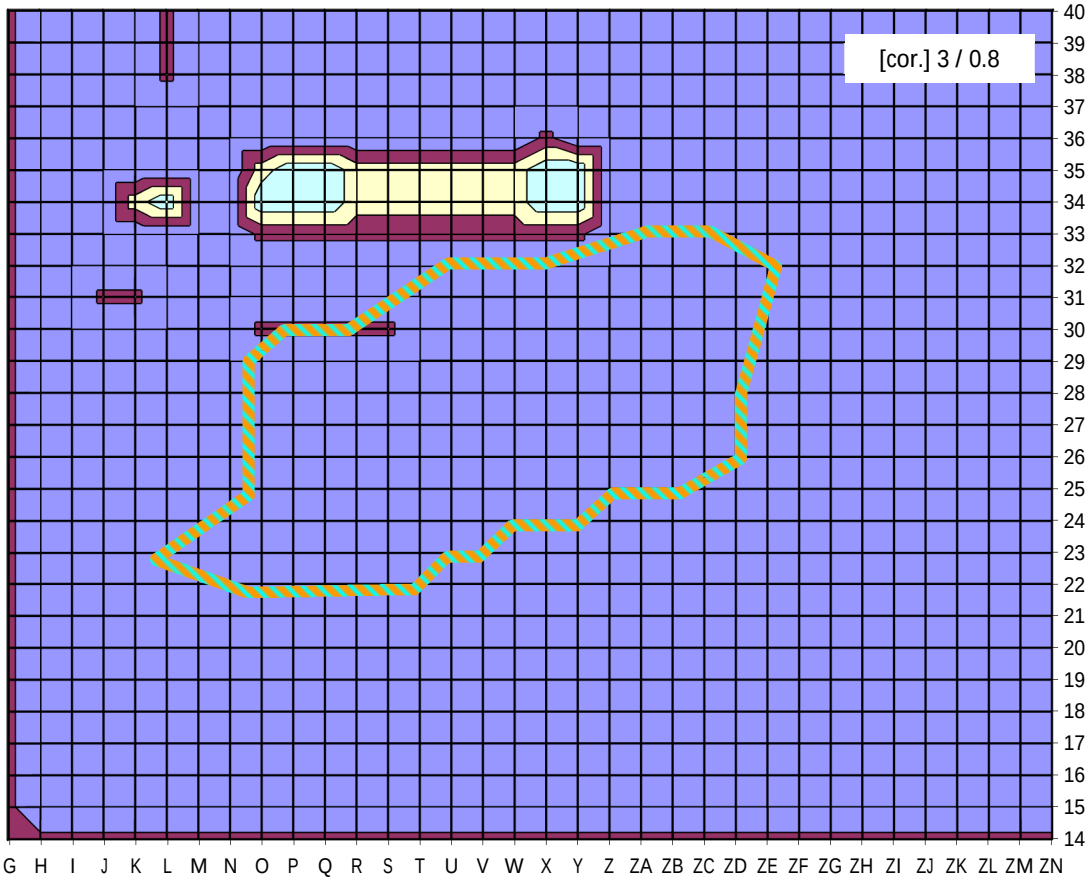


Fig.2.2-134: Distribution patterns of <EW01*> (above) and <EW02*> (below).



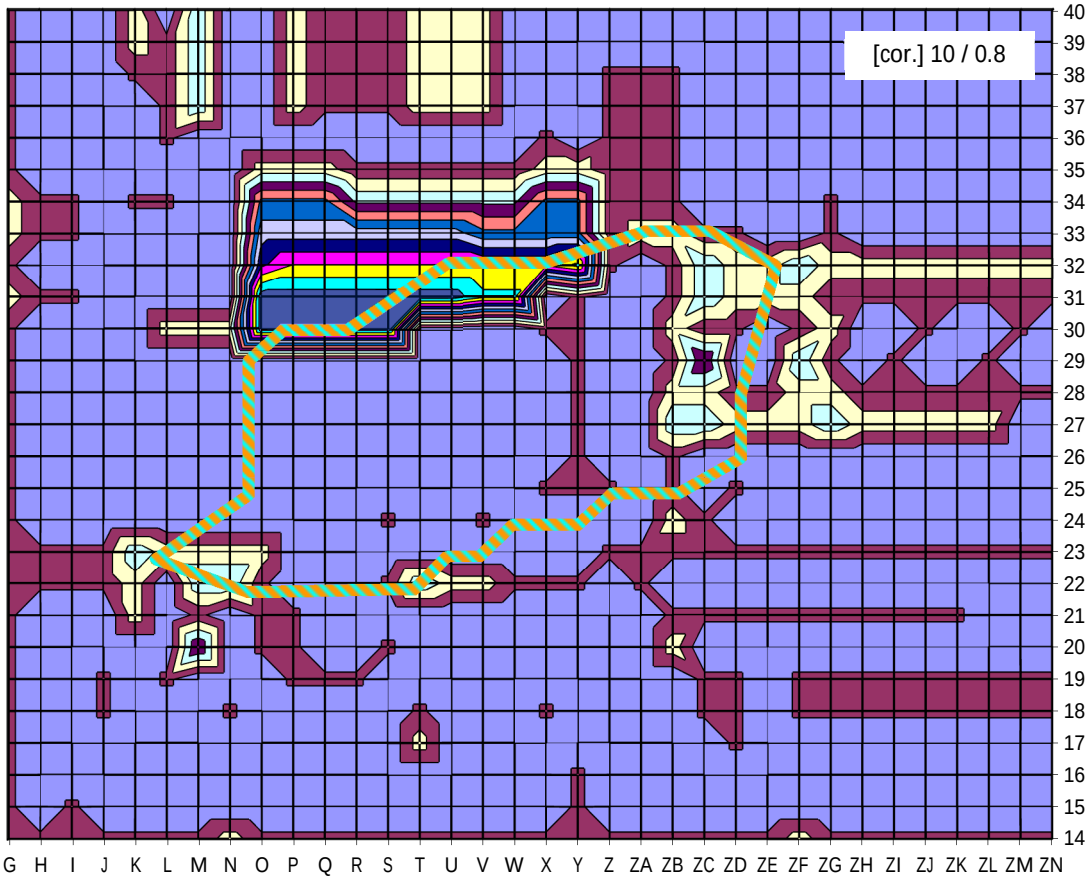
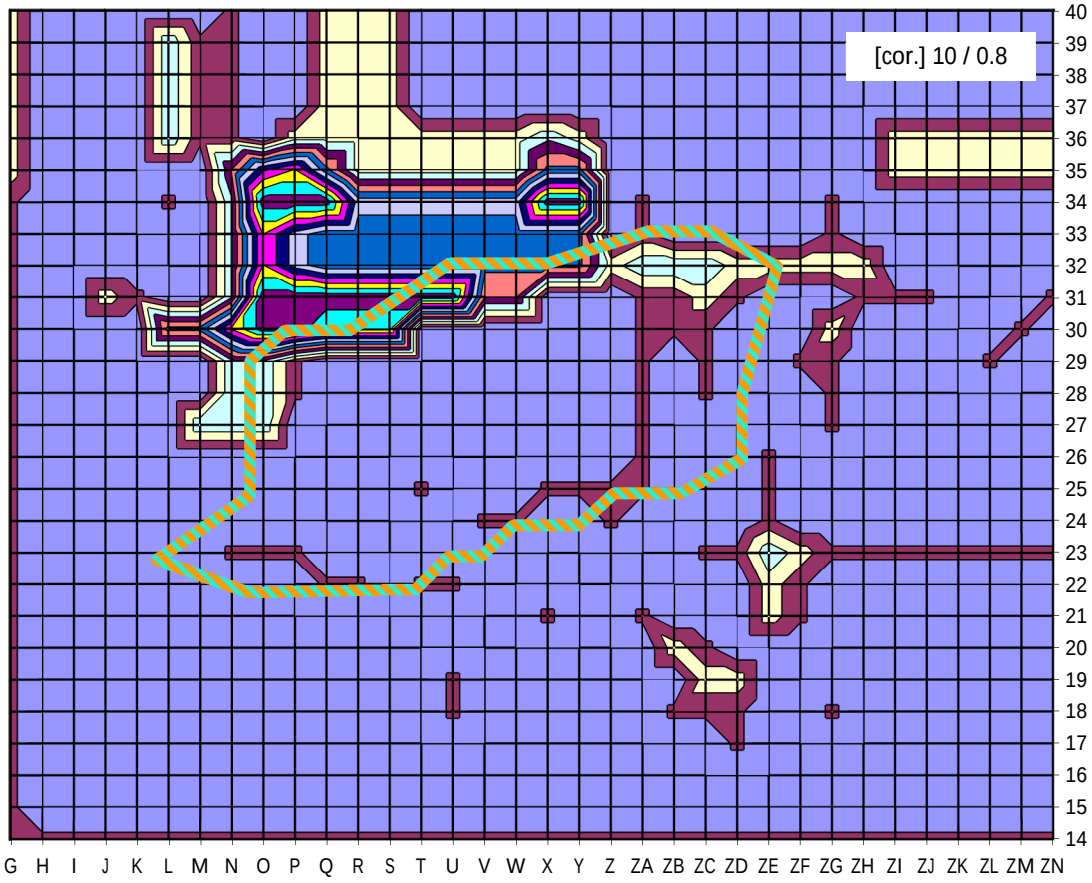


Fig.2.2-135: Distribution patterns of <EW02a> (above) and <EW02a/s> (below); cont. …



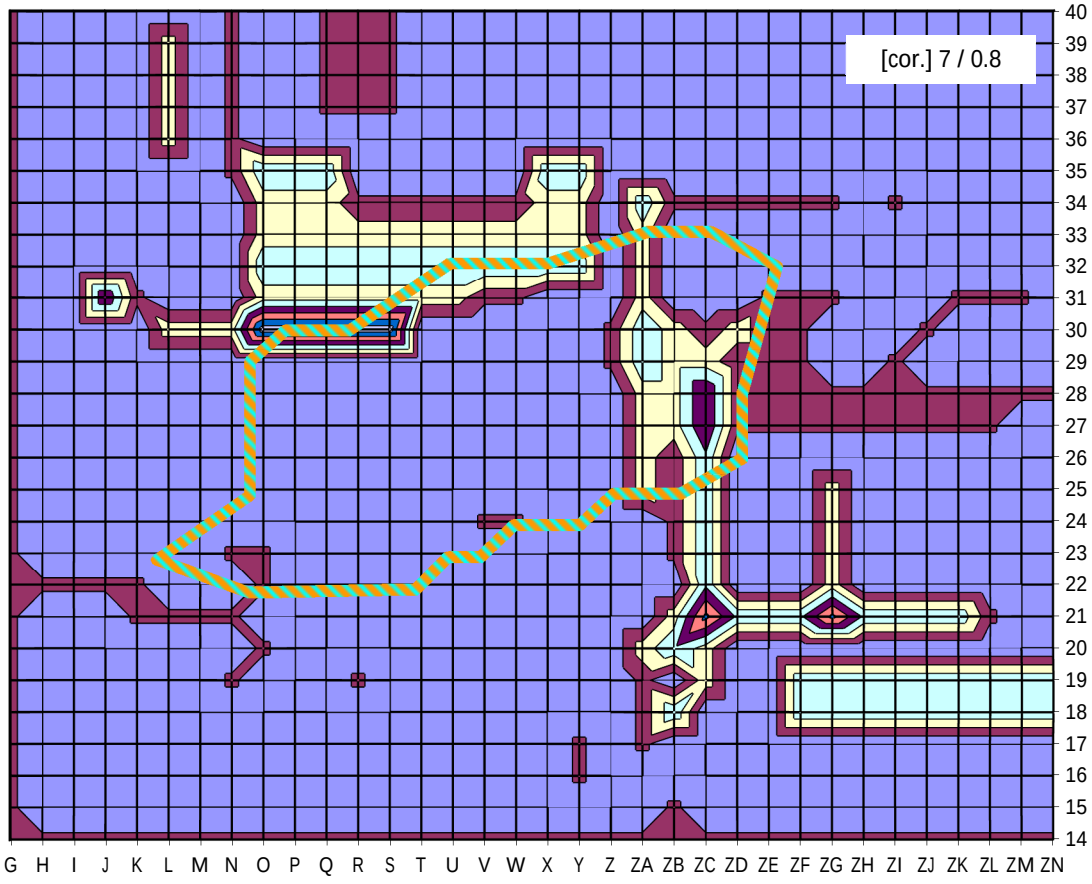


Fig.2.2-135, cont.: Distribution patterns of <EW02c> (above) and <EW02d> (below).

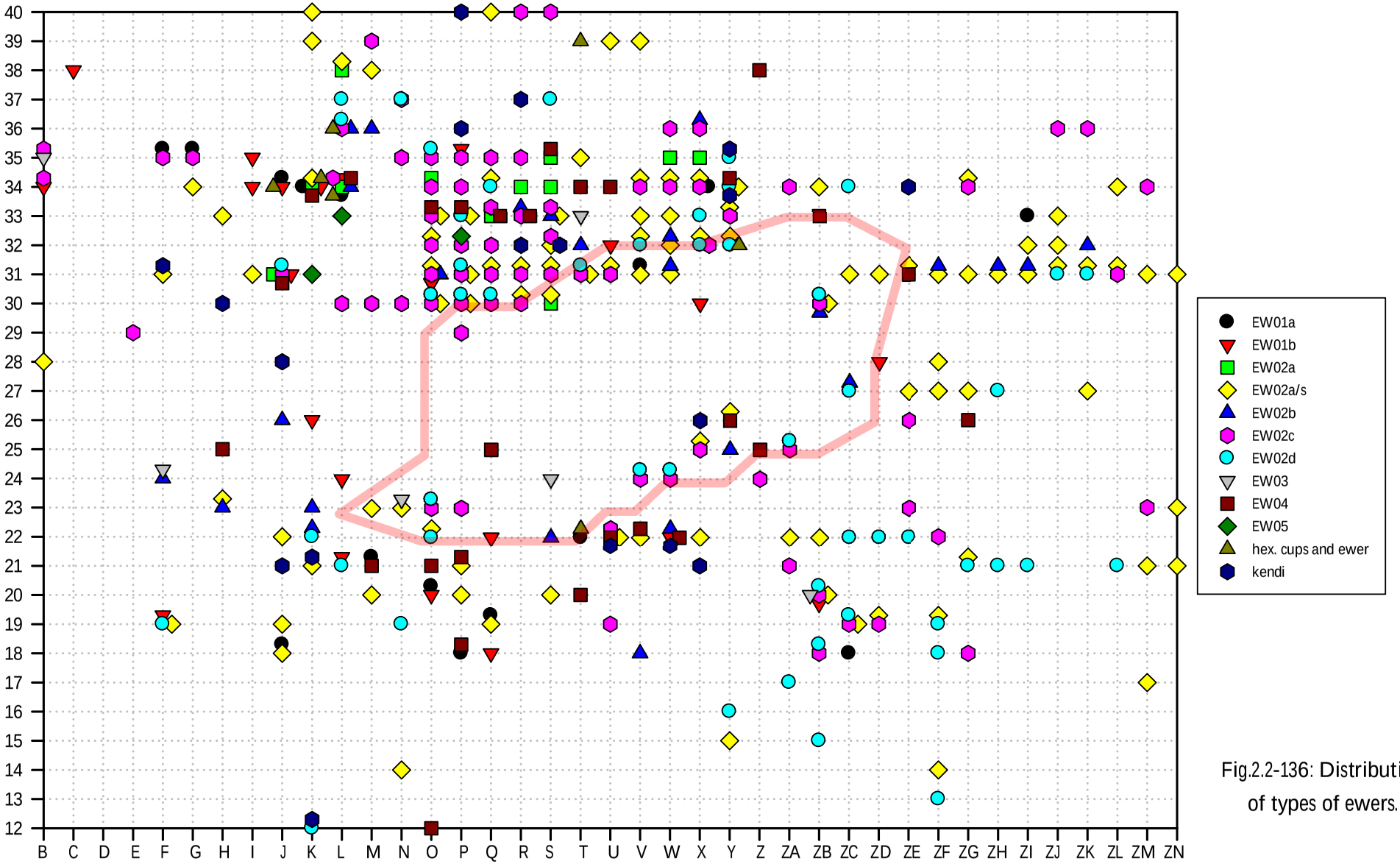


Fig.2.2-136: Distribution of types of ewers.

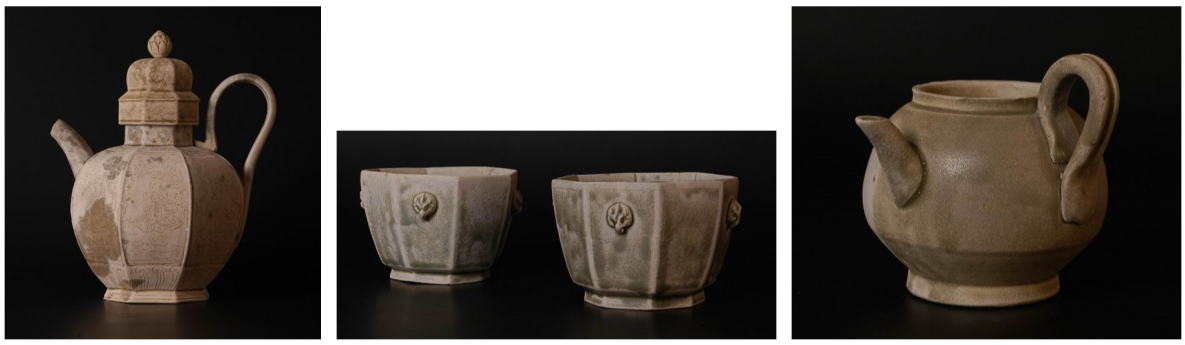


Fig.2.2-137: Hexagonal ewer Art.30442 and associated cups; ewer with sideways handle, <EW05>.

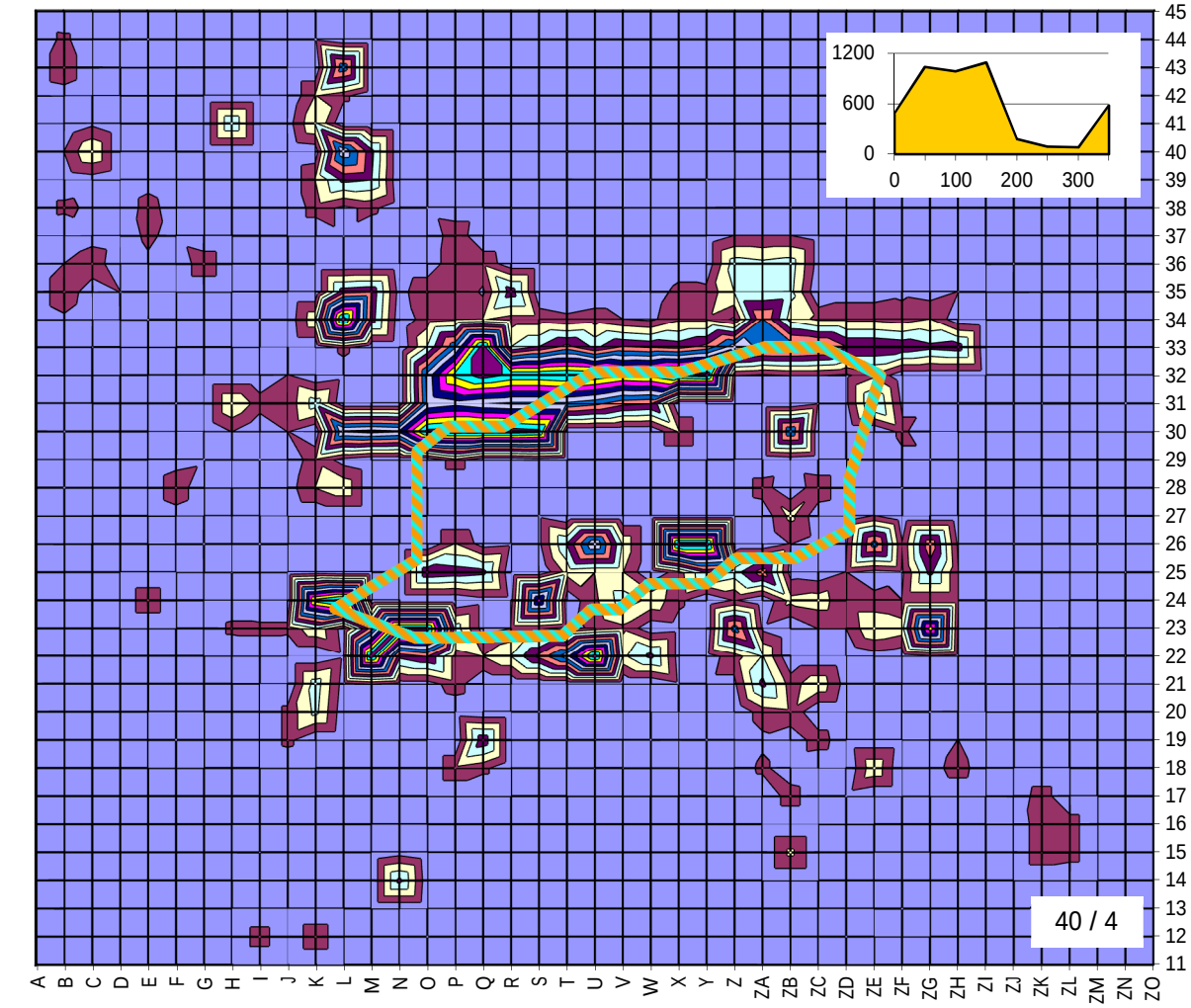


Fig.2.2-138: Uncorrected distribution plot of all lids that possibly were associated with various kinds of "closed" vessels.

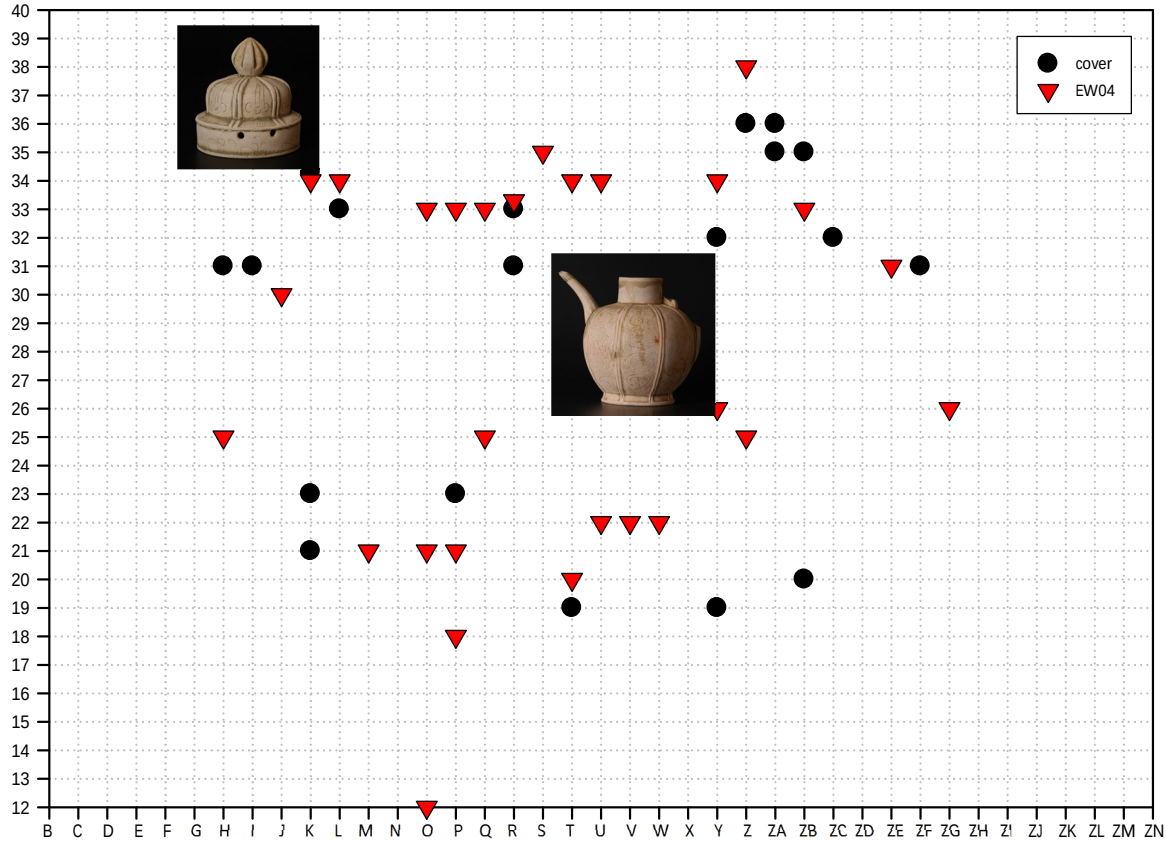


Fig.2.2-139: Distribution of <EW04> and proposedly associated covers.

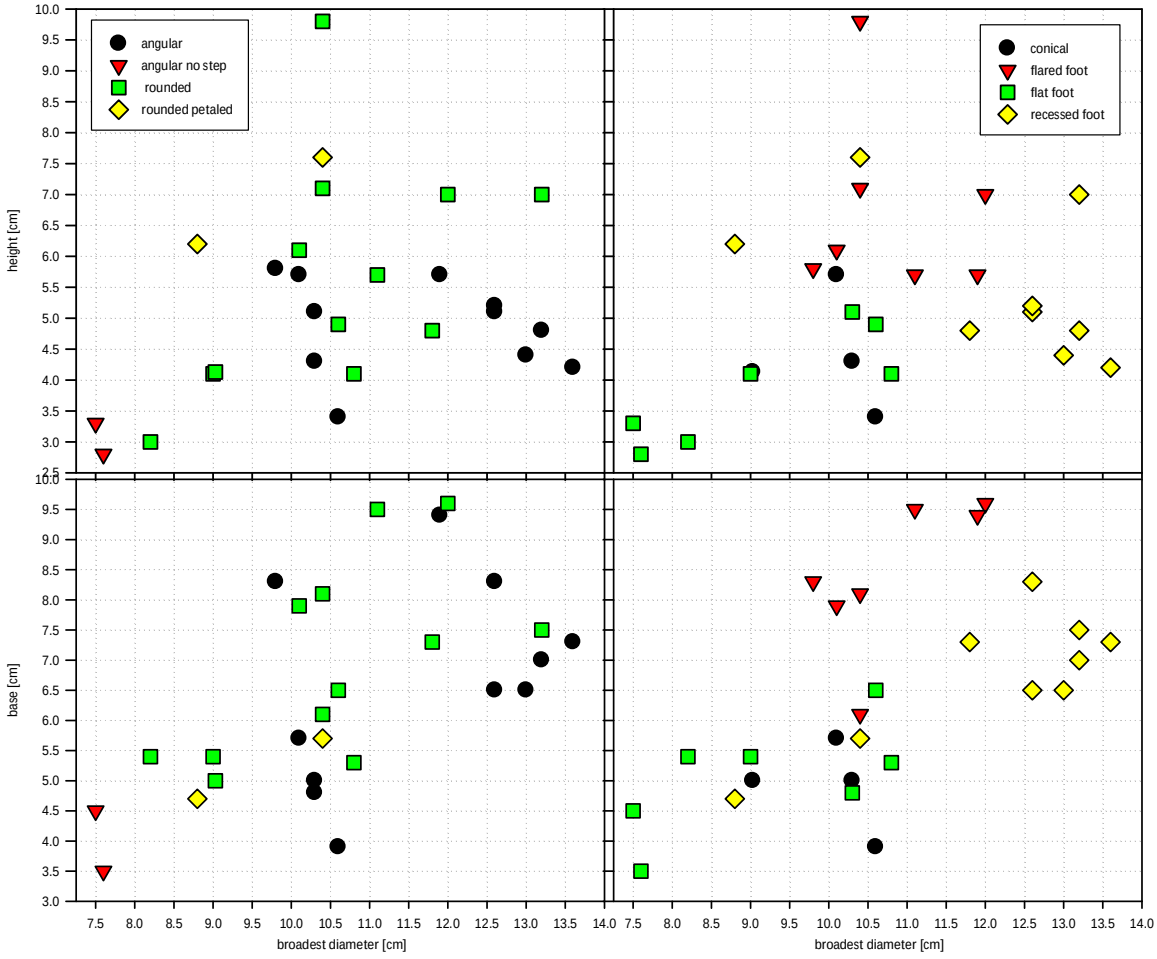


Fig.2.2-140: Measurements and profiles of covers (left) and base (right) of smaller covered boxes.

Flared footring, both angled and rounded covers, incised decorations (parrots, frieze, solar cross) - base <8.5 cm, diameter<10.5. <CVB/gr01a>; idem., larger sizes, phoenix, flowers - <CVB/gr01b>

Flared footring, tall globular shape, undecorated - <CVB/gr02>

Recessed foot, tall globular shape, petaled exterior, incised flowers - <CVB/gr03>

Recessed foot, flat angular or rounded cover, various incised decorations - <CVB/gr04>

Recessed foot, rounded cover, extensive incised decorations of geese and friezes - <CVB/gr05>

Smallest size (ca. 3 cm height), flat foot, shallow angular cover, carved circles - <CVB/gr06

Conical base, flat angled or rounded cover, plain or carved circles - <CVB/gr07>

Fig.2.2-141, cont. …

Flat rounded base, flat angled (carved circles) or rounded (incised phoenix) cover - <CVB/gr08>

Diameter >15 cm, flared footring, both angled and rounded covers, incised (dragon, phoenix, peacock, frieze) and carved lotus decorations - <CVB/gr09>

Diameter >15 cm, recessed footring, undecorated - <CVB/gr10>

Fig.2.2-141, cont.: Proposed categorisation of green-glazed covered boxes.

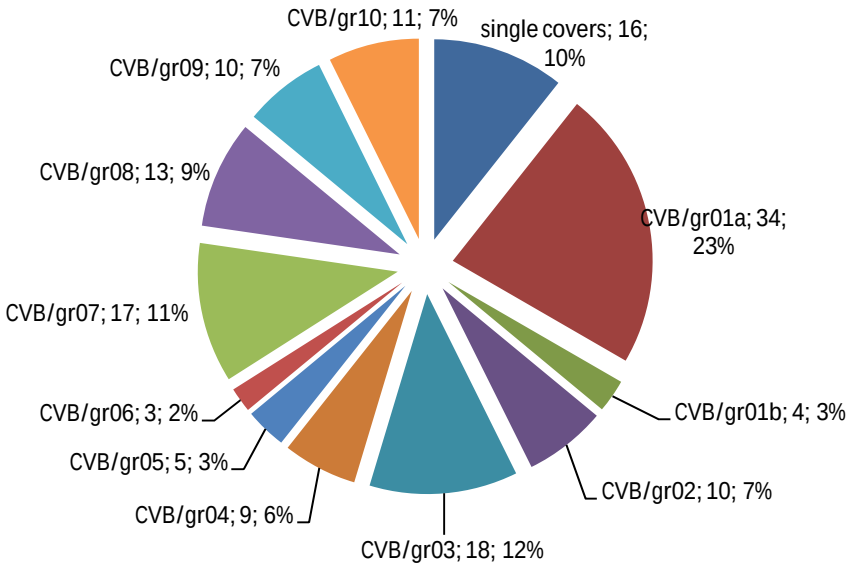


Fig.2.2-142: Totals and percentages of categories of green-glazed covered boxes.

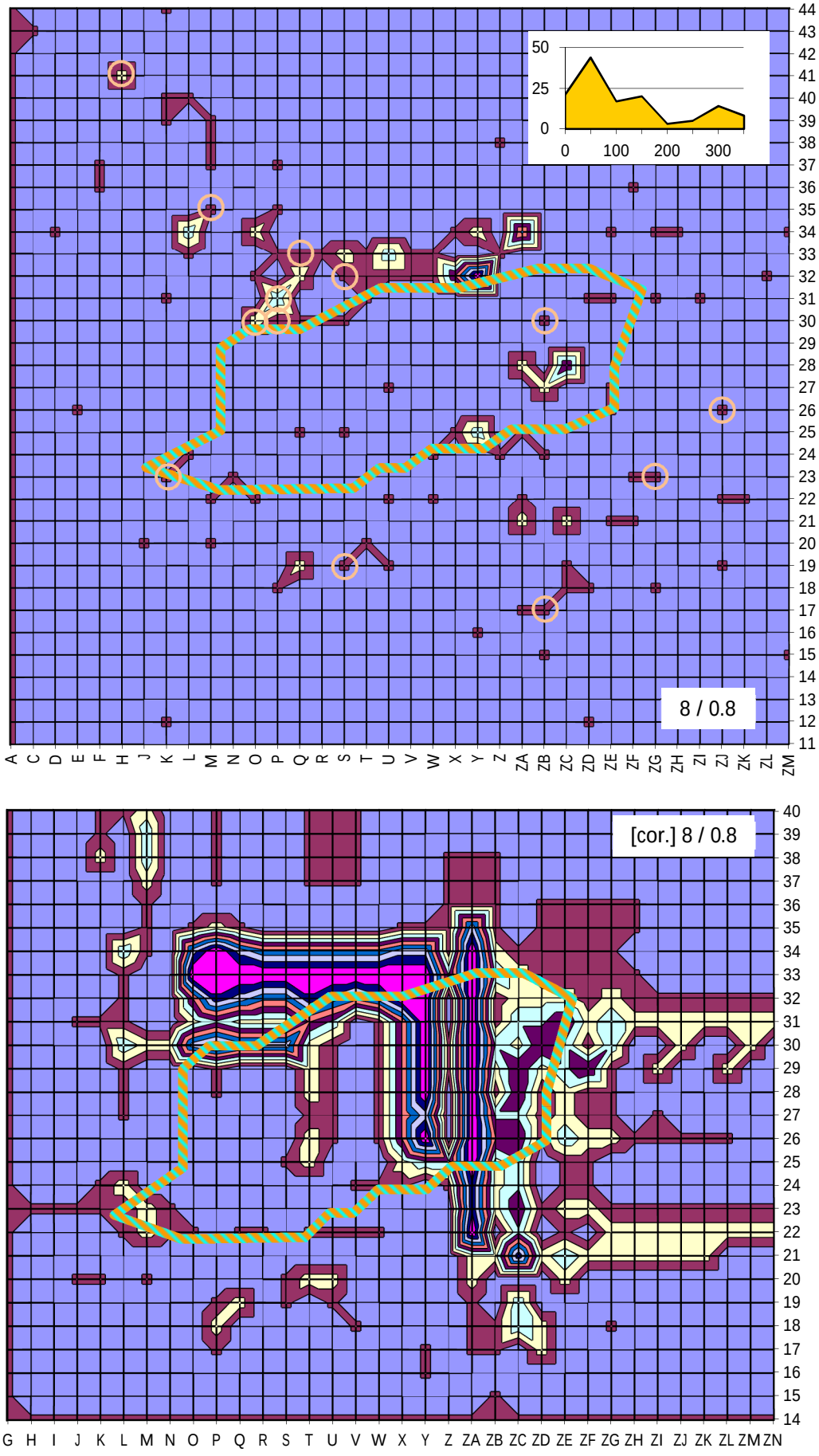


Fig.2.2-143: Uncorrected (above) and corrected (below) distribution plots of all green-glazed covered boxes and single covers, the latter marked by mauve circles above.

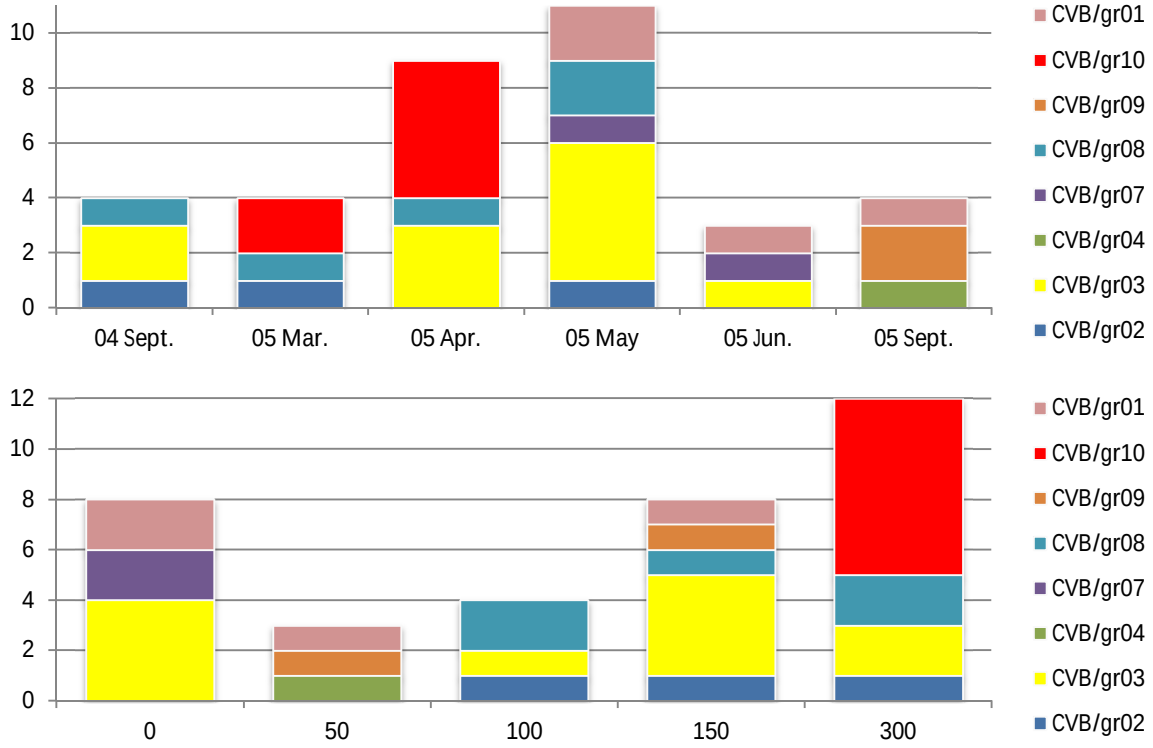


Fig.2.2-144: Months (above) and |z| values (below) for all covered boxes retrieved from area of highest concentration.

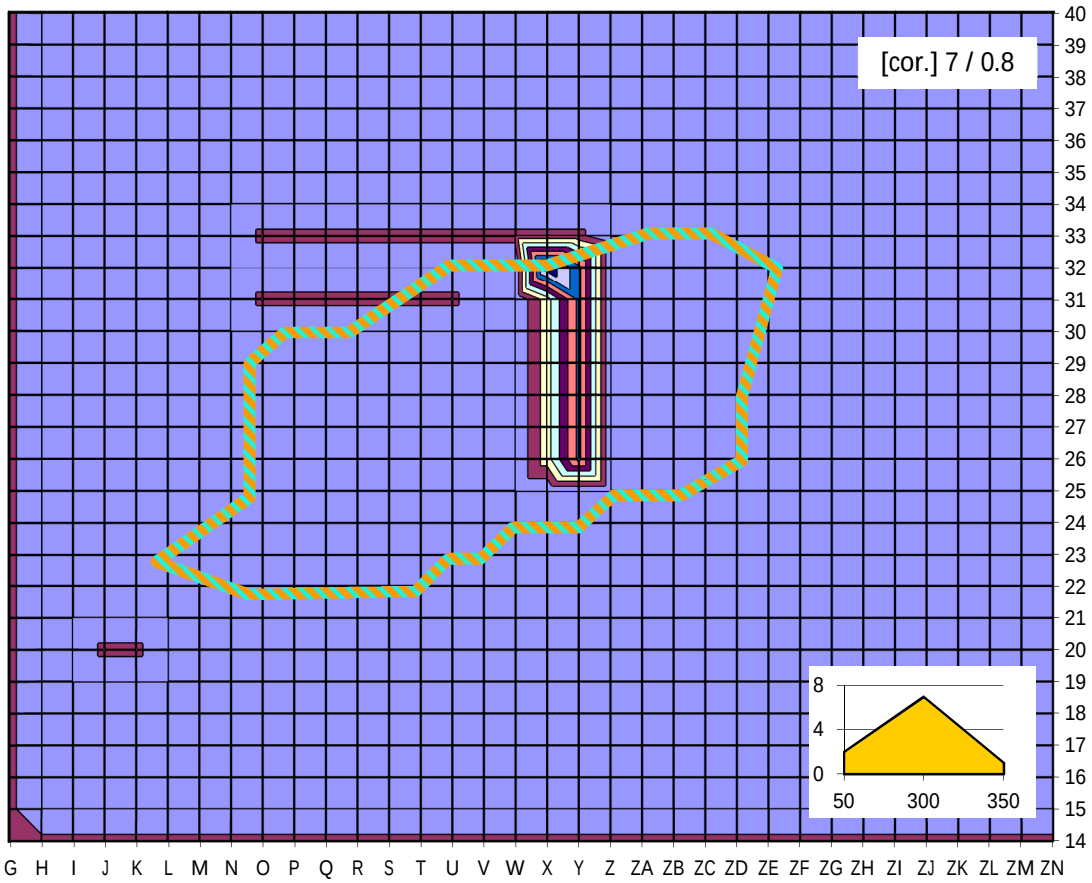


Fig.2.2-145: Distribution of <CVB/gr10>.

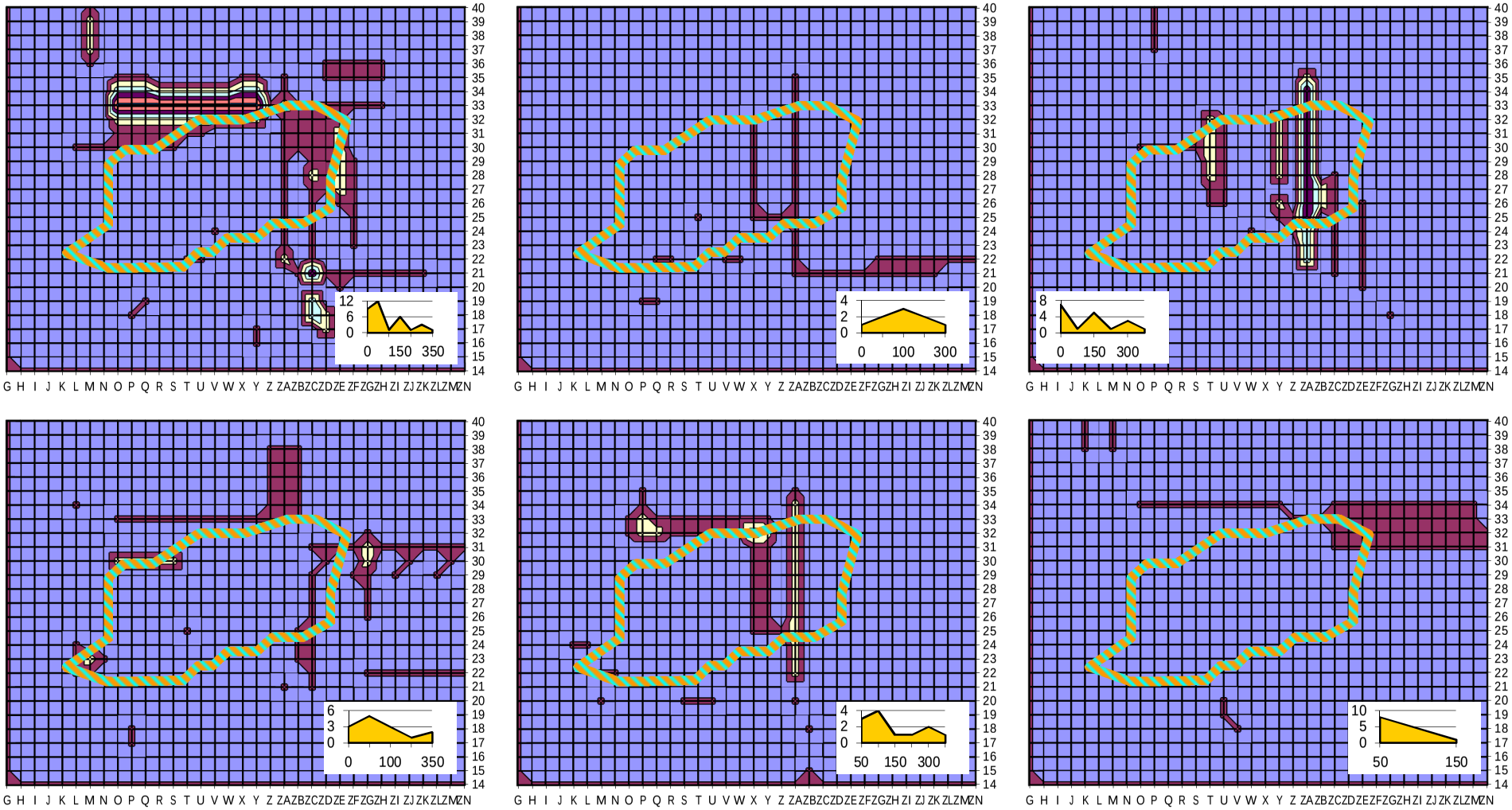


Fig.2.2-146: Corrected distribution charts for, from upper left to below right, <CVB-gr01, 02, 03, 06, 07, 08, 09>. Step count 0.8/step.

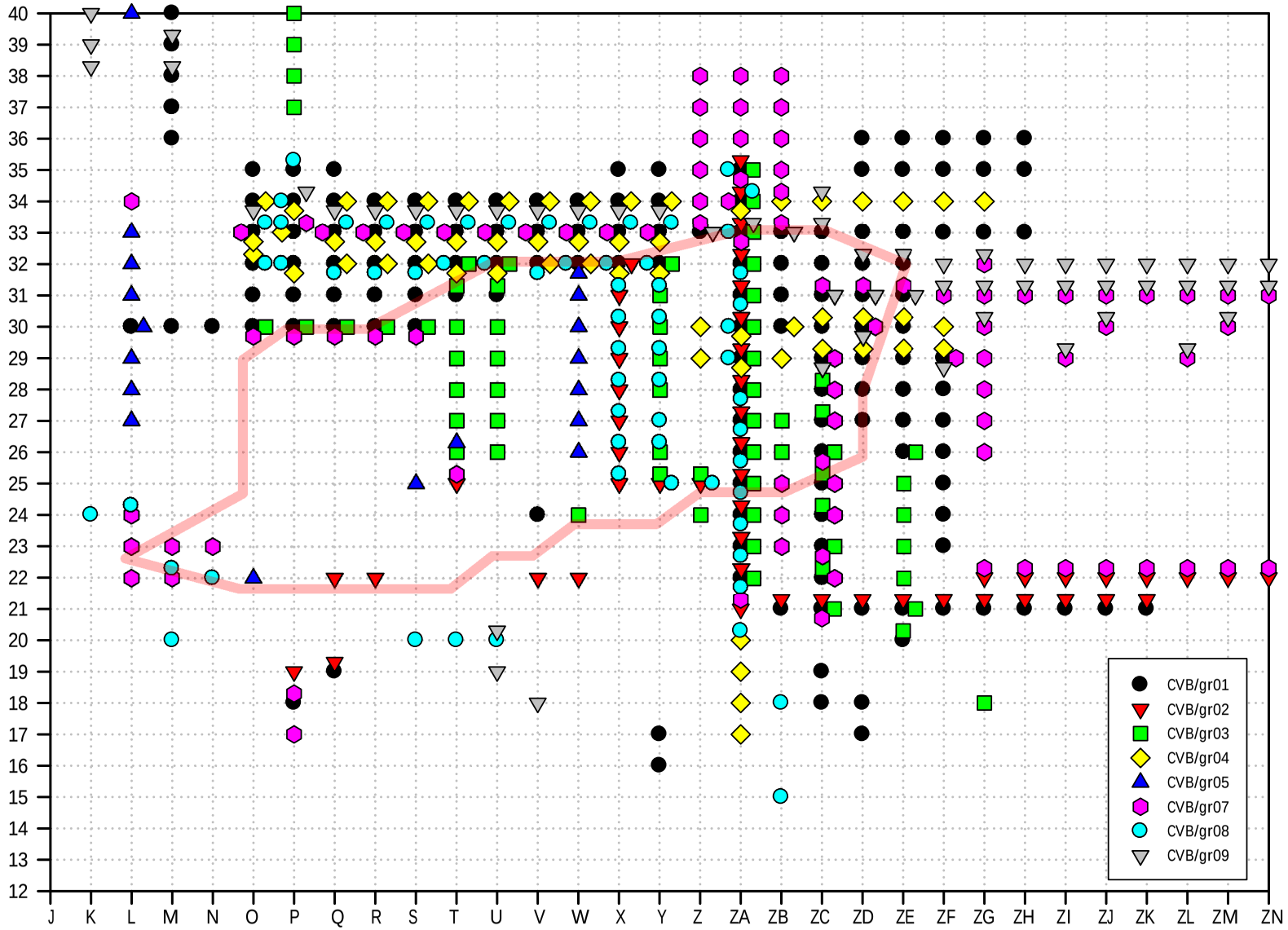


Fig.2.2-147: Corrected distribution pattern of covered boxes by waregroups.

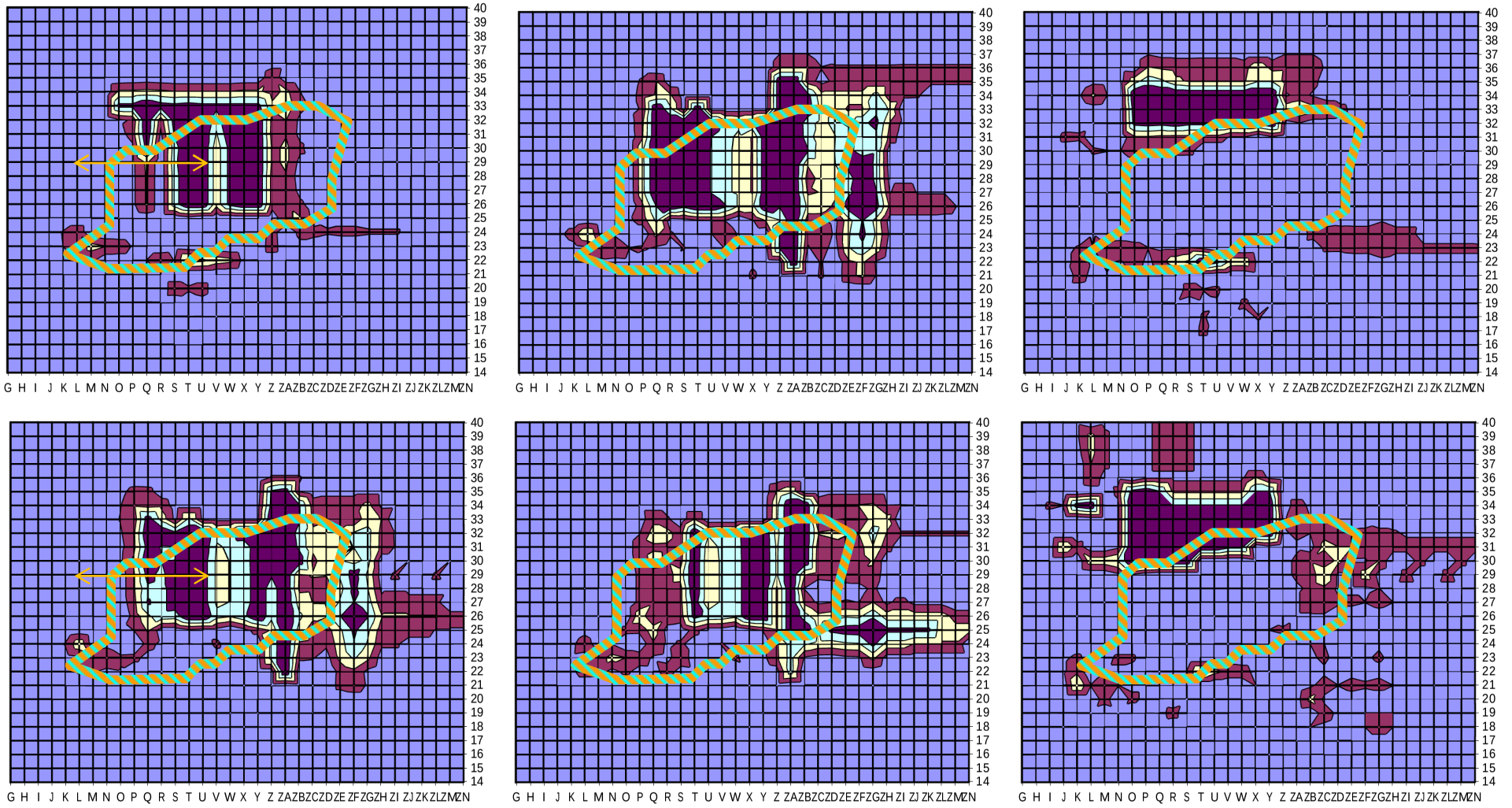


Fig.2.2-148: Overview of distribution patterns of the main categories of green-glazed stonewares. Per column, from left to right – decorated (above) and plain "open" vessels (below); <OP01> and <OP07>; ewers and kendis. Orange lines in the plots left mark approximate distance between 'tween-deck and bows of the ship.

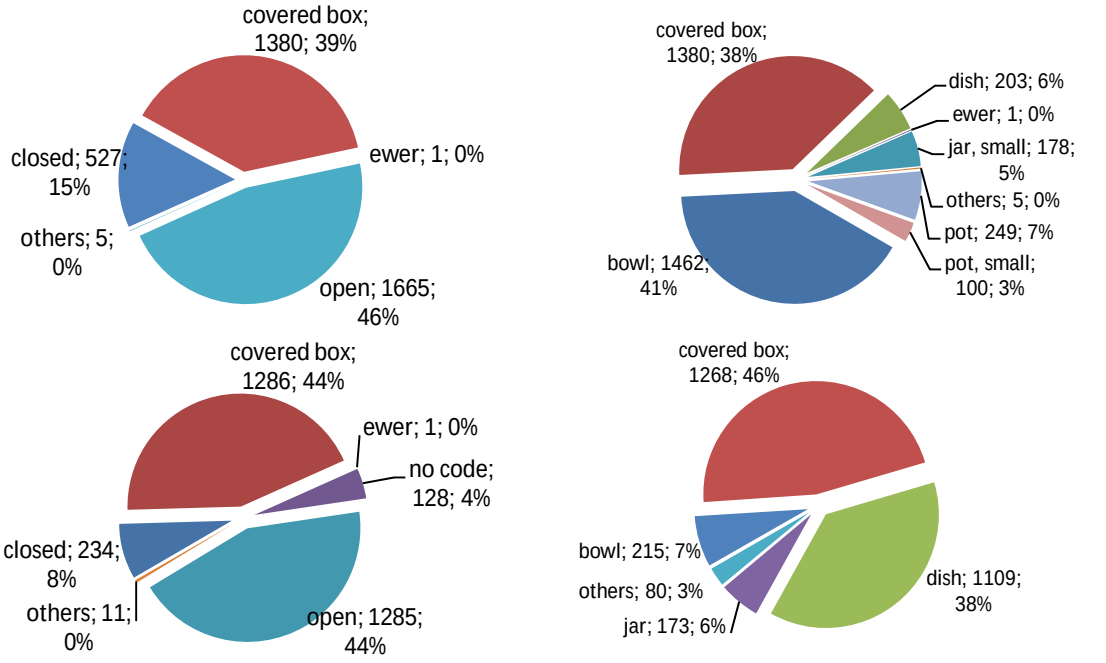


Fig.2.2-149: Divisions of <wh> (above) and <loc> (below) records of whitewares into major categories of vessels; new classifications, left, original ones, right.

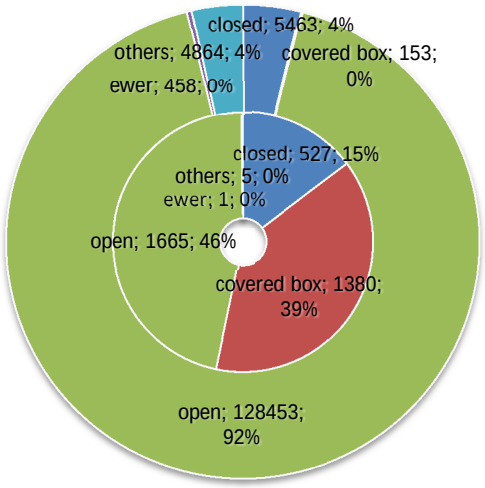


Fig.2.2-150: Divisions into major categories of vessels for whitewares (inside) and green-glazed stonewares (outside).

Fig.2.2-151: Example photograph of <BL005/wh>, a whiteware bowl with a folded mouthrim.

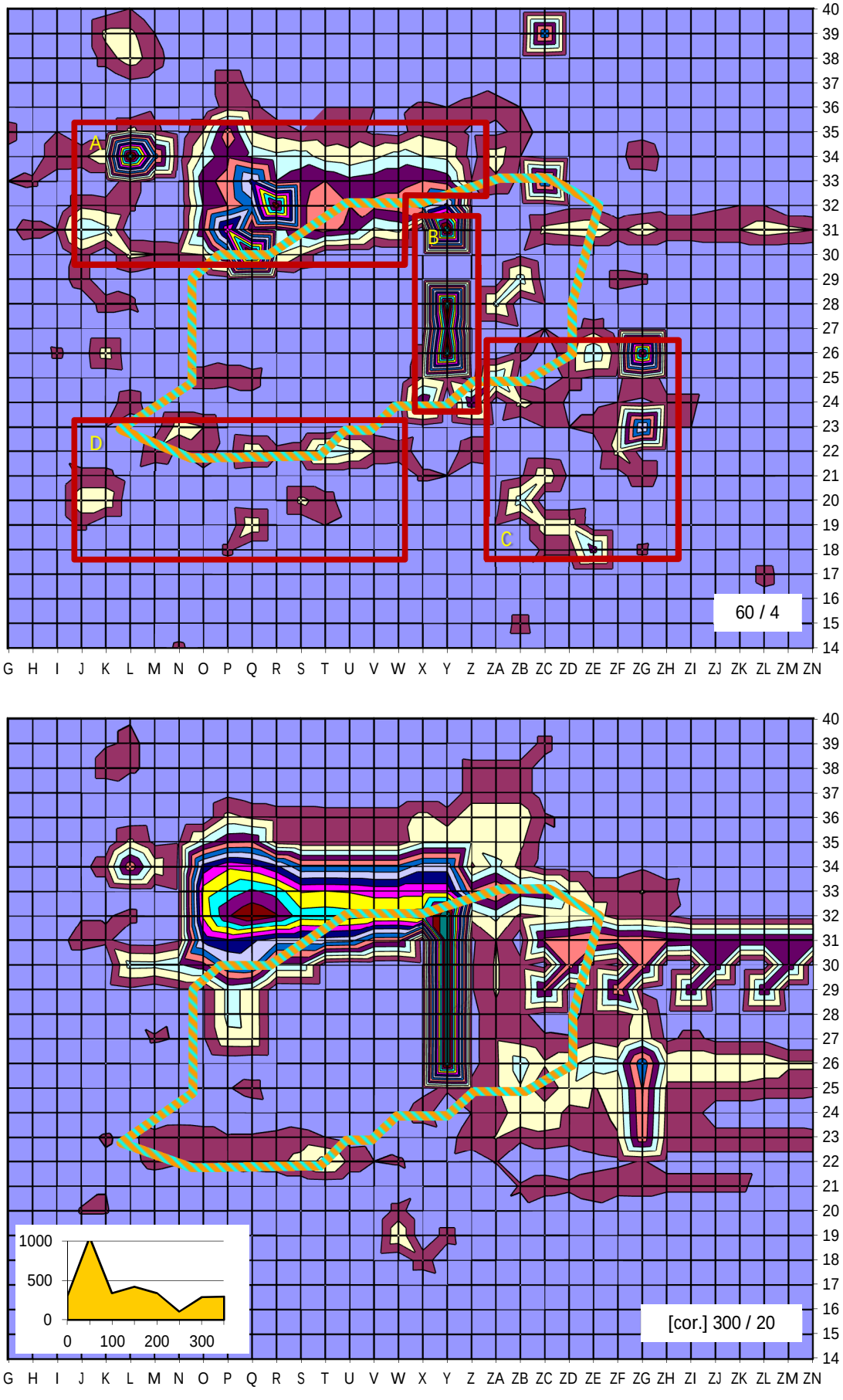


Fig.2.2-152: Distribution of whitewares over central site. For areas marked above see text and following figure.

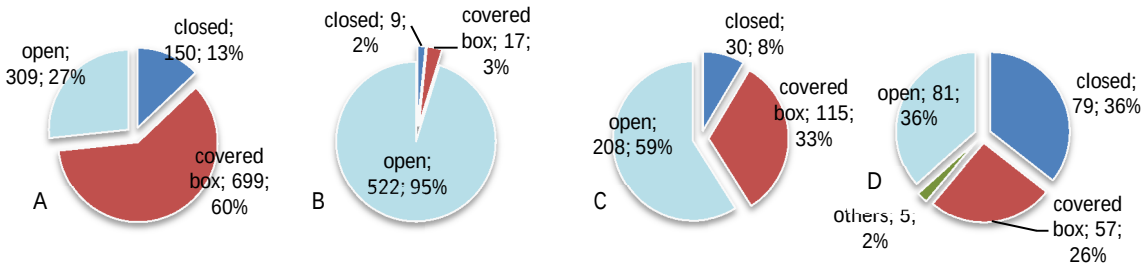


Fig.2.2-153: Composition of objects retrieved from grid sectors marked in previous figure.

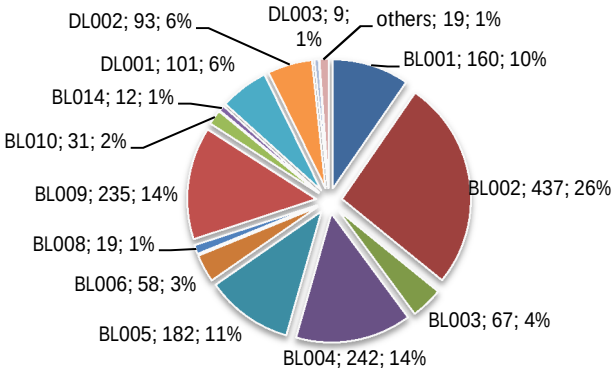


Fig.2.2-154: <wh> categorisations of "open" whitewares; nine code entries with less than 5 members noted under 'others'.

dia bottom	dia top	height	code <wh>	height:diameter ratio
10	12.2	8.9	BL001E	1.37
9.2	11.6	4.8	DL001B	2.42
9	11.9	4.8	DL001A	2.48
10.1	21.1	8	BL006A	2.64
8.6	20.4	7.6	BL004B	2.68
...				...
10	21.7	7.4	BL001B	2.93
8.5	18.8	6.4	BL014	2.94
9	12.4	4.2	DL001C	2.95

dia bottom	dia top	height	code <wh>	height:diameter ratio
8	17.8	6	BL019	2.97
7.7	18.4	6.2	BL003D	2.97
...				...
8.7	21	6	BL005C	3.50
6	14.8	4.1	BL009C	3.61
7.9	15.5	3.8	DL003	4.08
7.2	13.1	3.2	DL002C	4.09
8	15.6	3.8	DL002B	4.11
9.2	16	3.7	DL002A	4.32

Fig.2.2-155: Height:diameter ratios of whitewares. Vessels in <wh> classifications registered as bowls, red; dishes, blue. First break omits 16, second break 17 <wh> waregroups of bowls with ratios ranging in between the ones here presented.

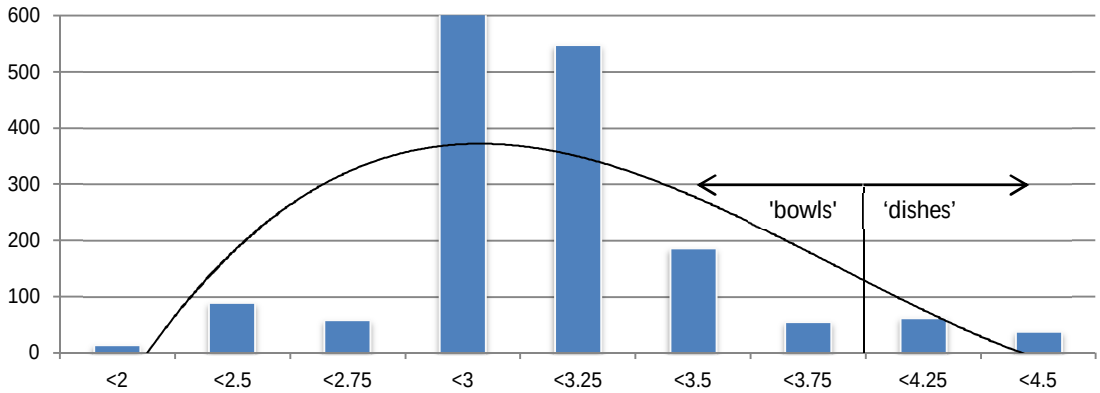
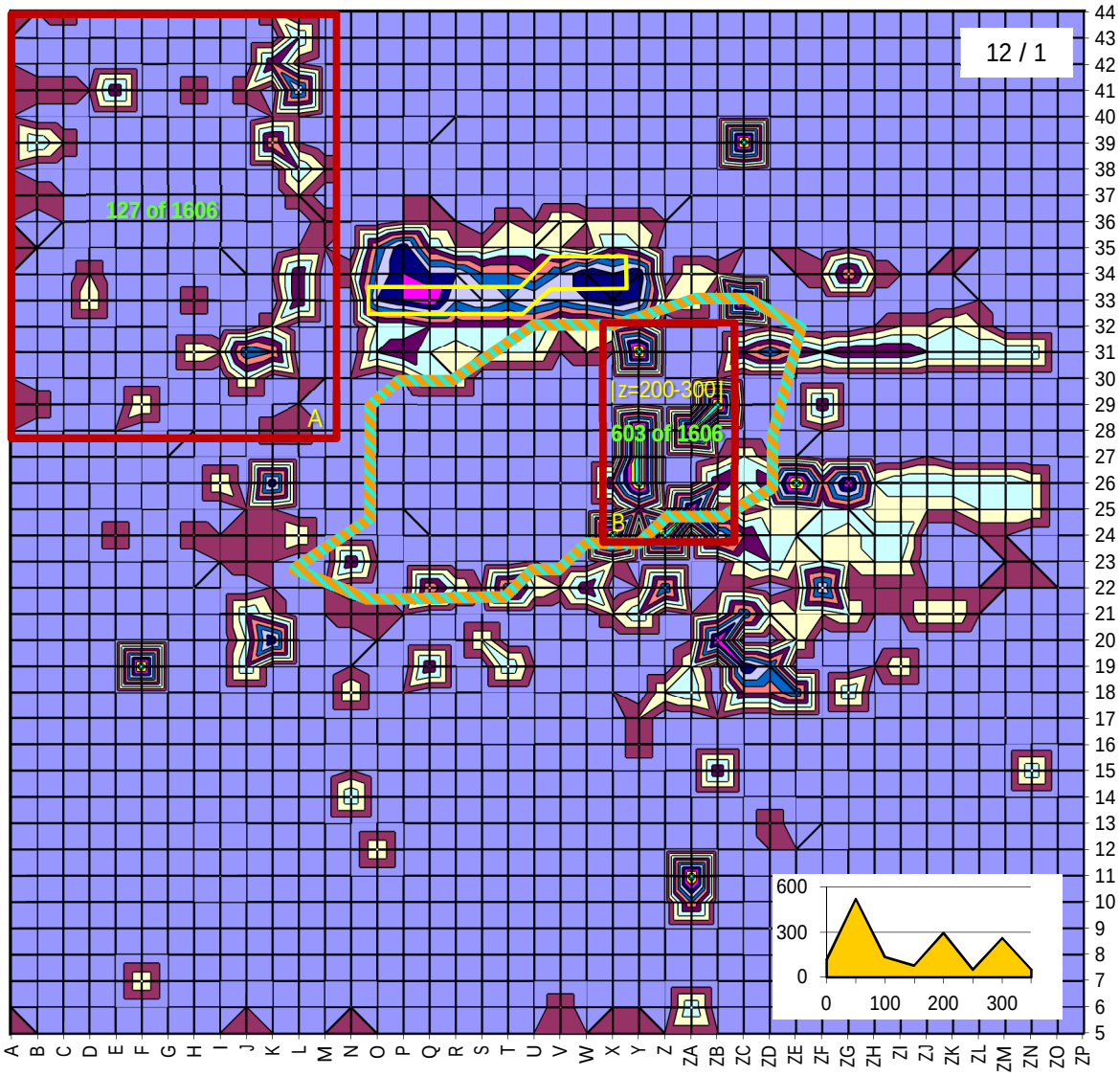
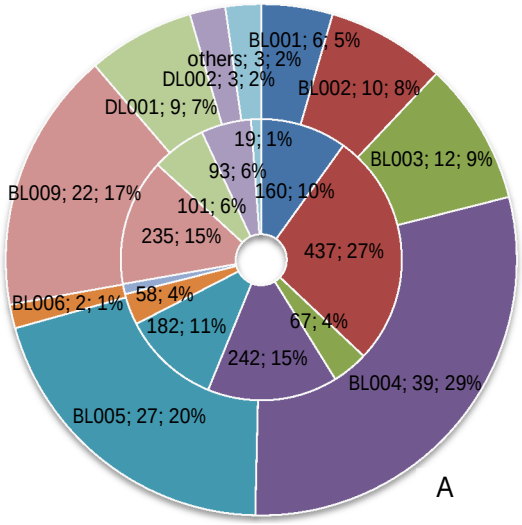
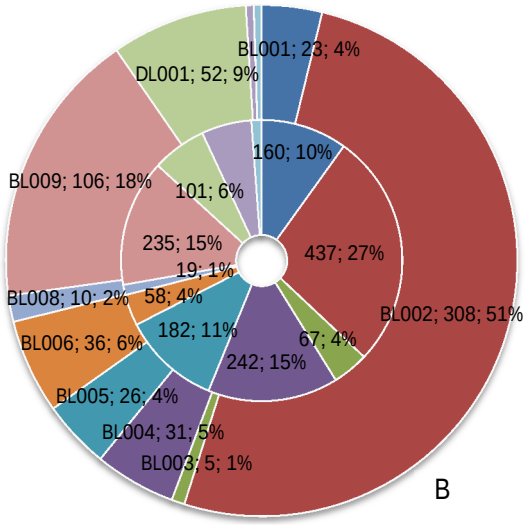


Fig.2.2-156: Height:diameter ratios and totals for "open" whitewares; polynomial trend-line; division into 'bowls' and 'dishes' according to Mason 2004: Fig.2.2. Cf. Fig.2.2-36.







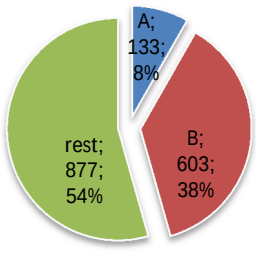


Fig.2.2-157: Distribution of “open” whitewares and composition of waregroups registered in gridNW ([A]) and over central-aft hold ([B]; outer circles) compared to overall amount and percentages of objects in main categories (inner circles). Area encircled yellow marks grid points recording <DL003>.

Fig.2.2-158: Example photographs for, per row above left to bottom right, <BL001b, 002a/wh>, <BL012, 014/wh>, <BL007, 009b, 003b/wh>, <BL004a, 005b/wh>, <BL013, 018, 019, /wh>, <DL001c, 002a/wh>.

Fig.2.2-159: <DL003/wh>.

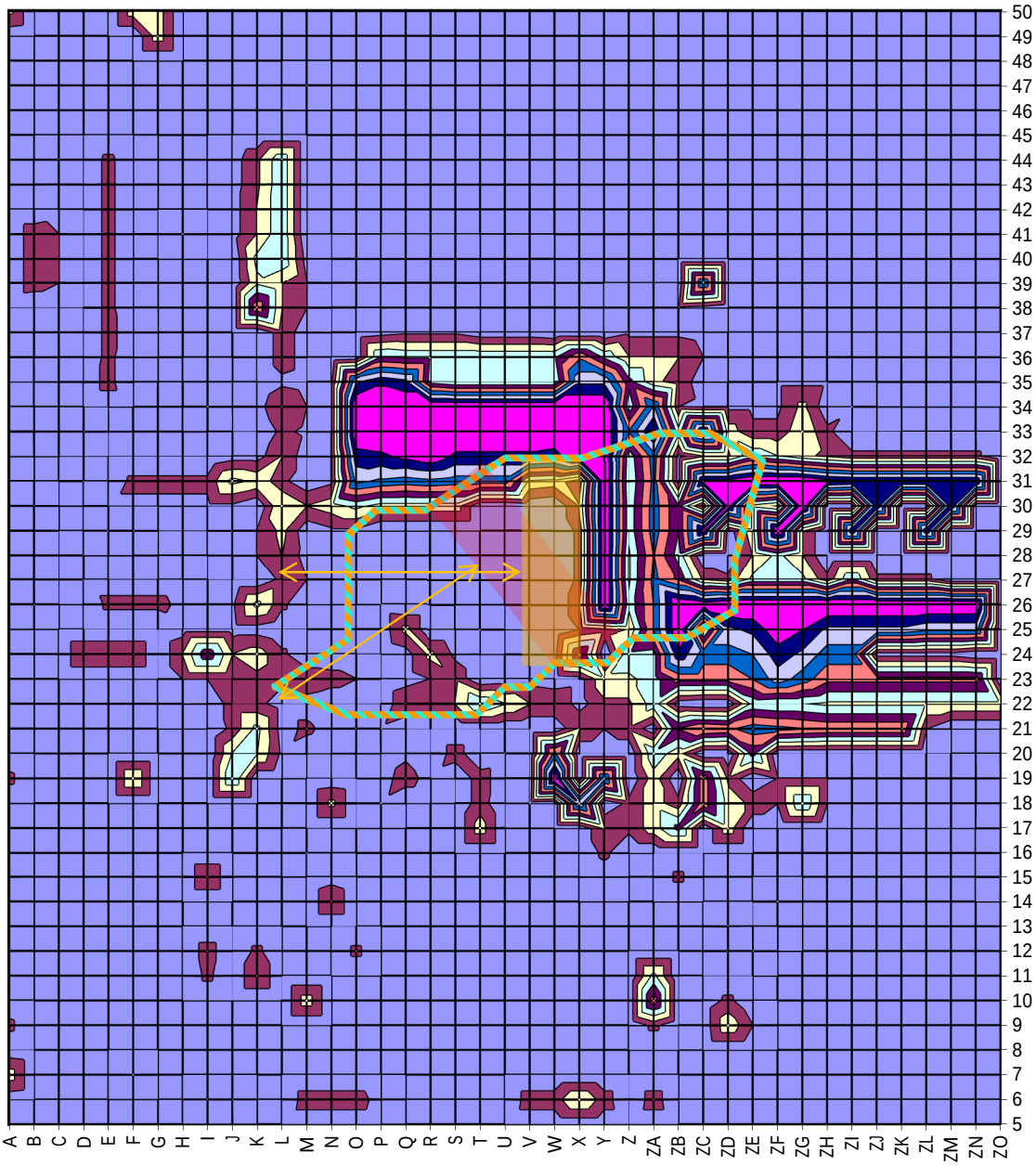


Fig.2.2-160: Corrected distribution chart for all “open” whitewares. Arrows mark distance of ‘tween-deck from bows; shaded orange the “virtual” position of the deck.

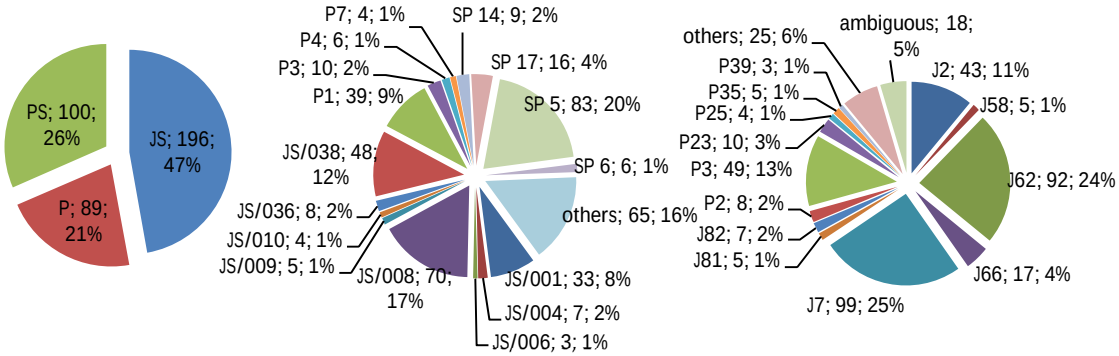


Fig.2.2-161: Reported categories of "closed" whitewares; totals of objects; percentages. Left and centre, <wh> records; right, <loc> notations. Code entries grouping less than 3 objects summarised under 'others'.

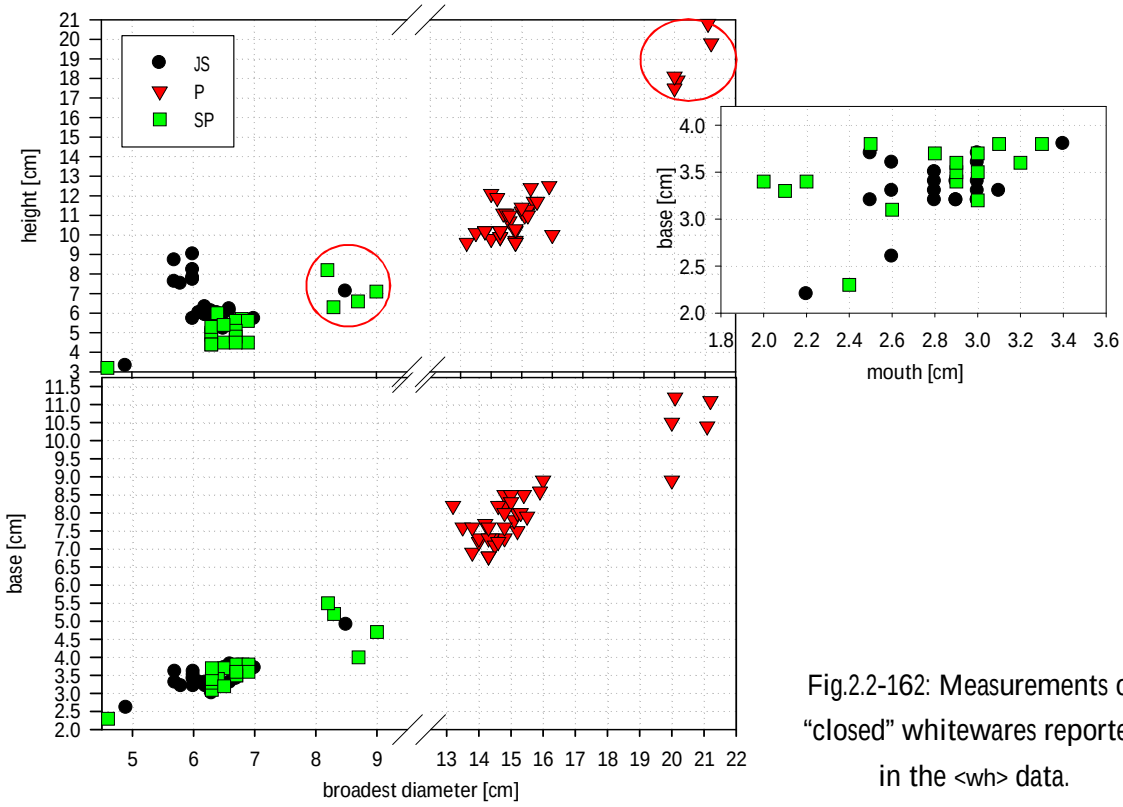


Fig.2.2-162: Measurements of "closed" whitewares reported in the <wh> data.

Fig.2.2-163: Profiles of the larger 'pots' (above) and larger 'small pots/jars' (below) marked in red circles in previous figure.

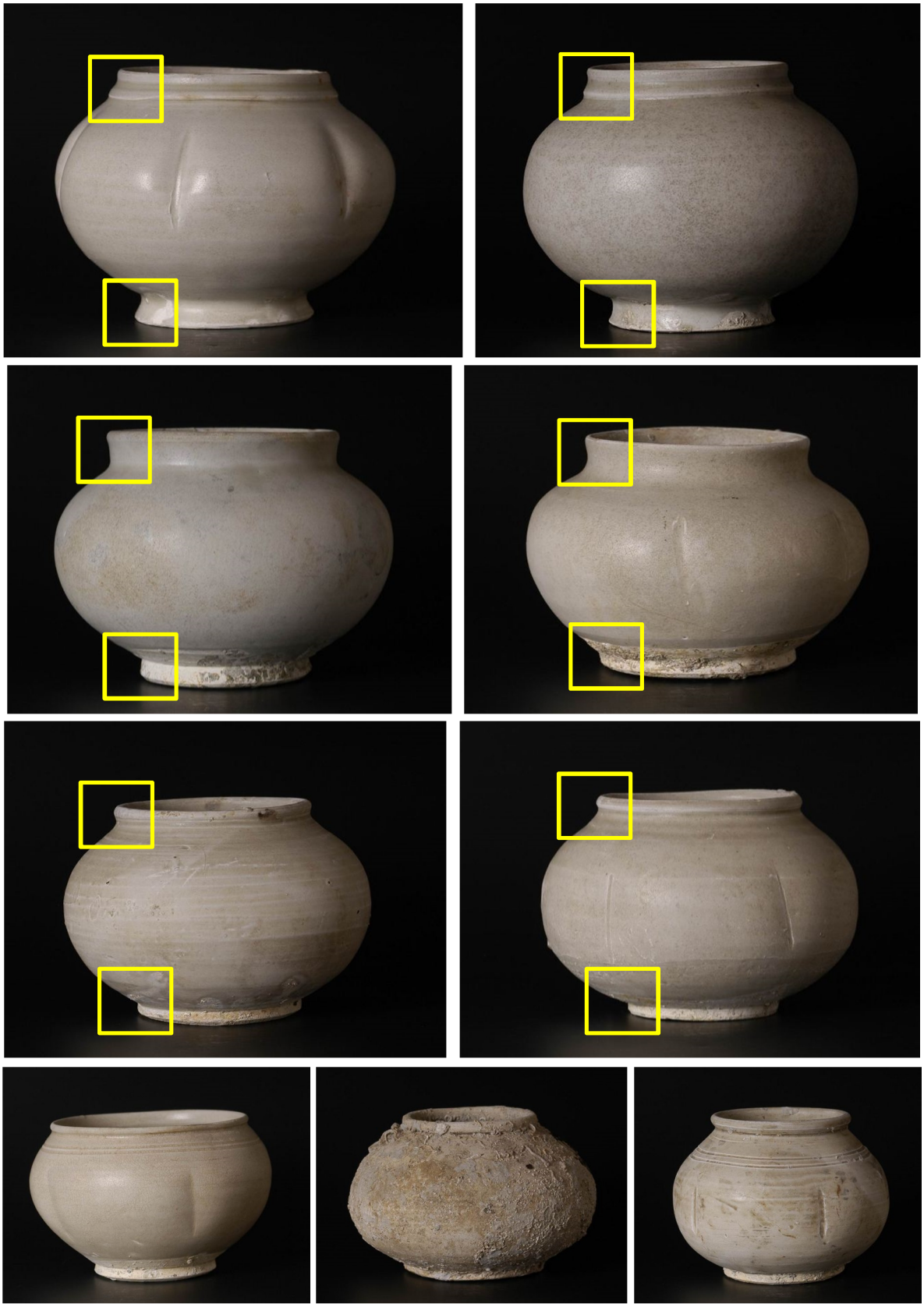


Fig.2.2-164: Proposed criteria for categorisations of white-glazed ‘pots’. From above left to below right, <P4/wh>, <P47/wh>, <P5/wh>, <P10/wh>, <P6/wh>, <P46/wh>, <P13/wh>, <P12/wh>, <P44/wh>.

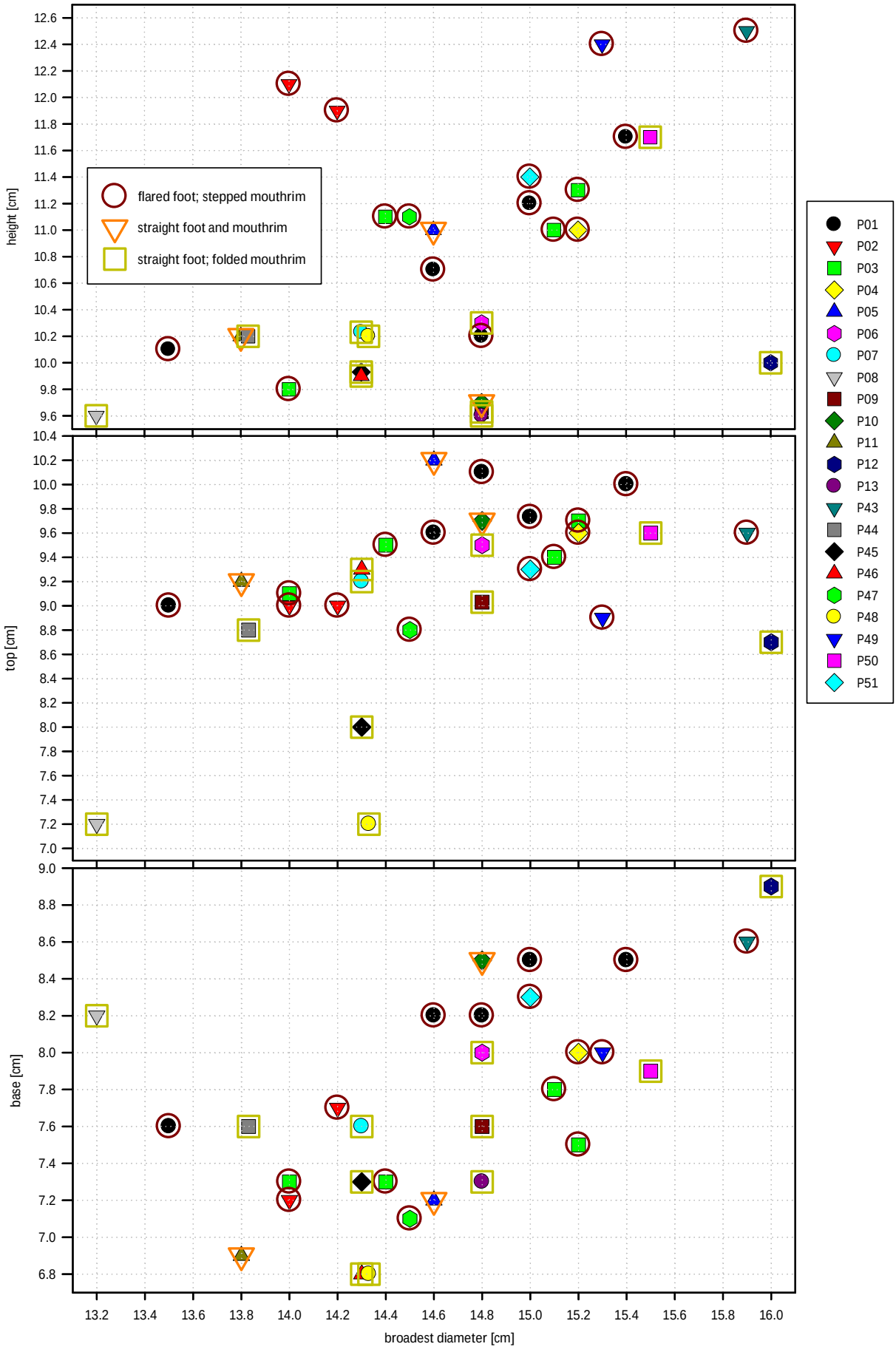


Fig.2.2-165: Measurements and categories reported in <wh> records and proposed classification criteria.

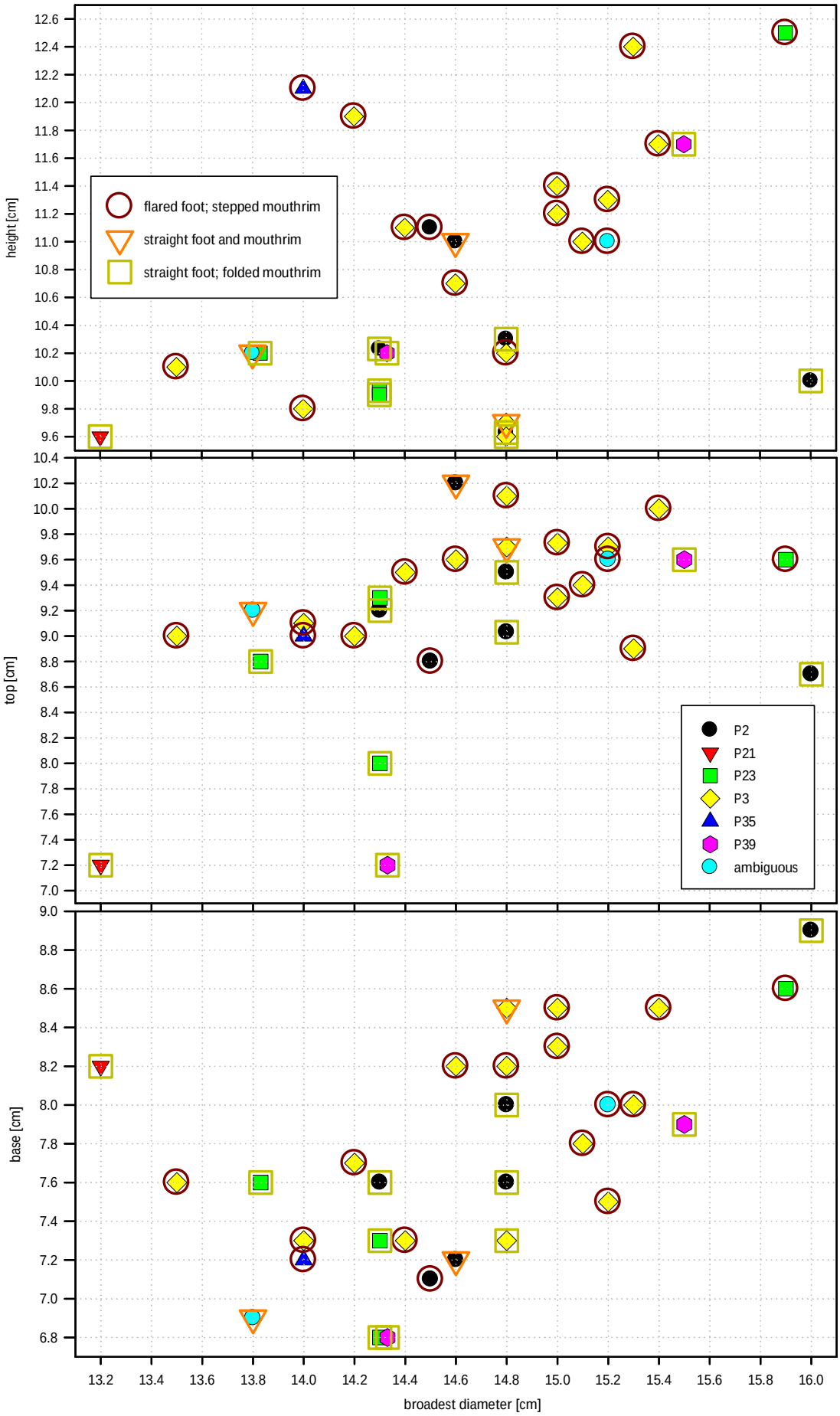


Fig.2.2-166: <wh> measurements, <loc> categories and proposed classification criteria.

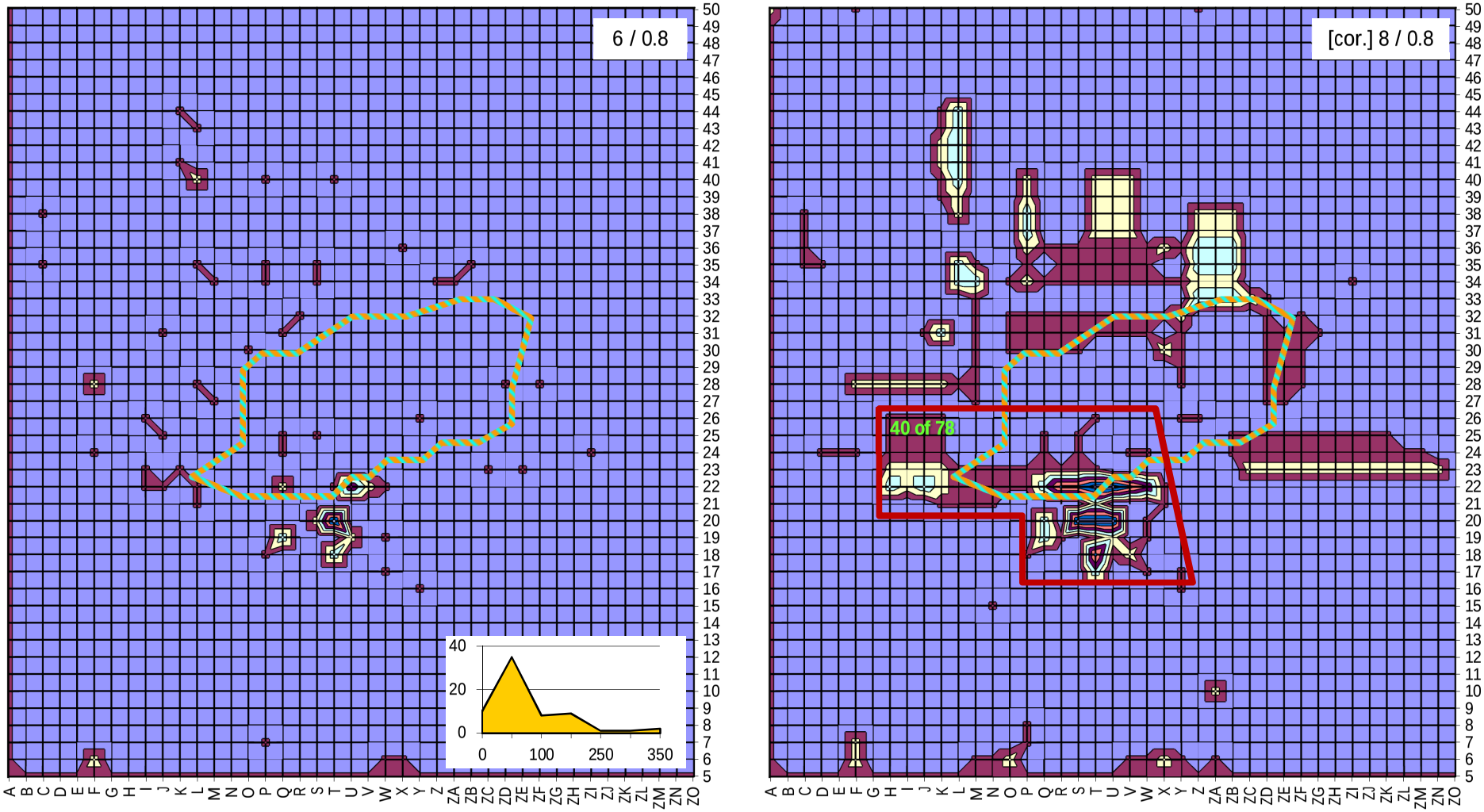


Fig.2.2-167: Distribution pattern of all white-glazed ‘pots’ excluding <P38-42/wh>.

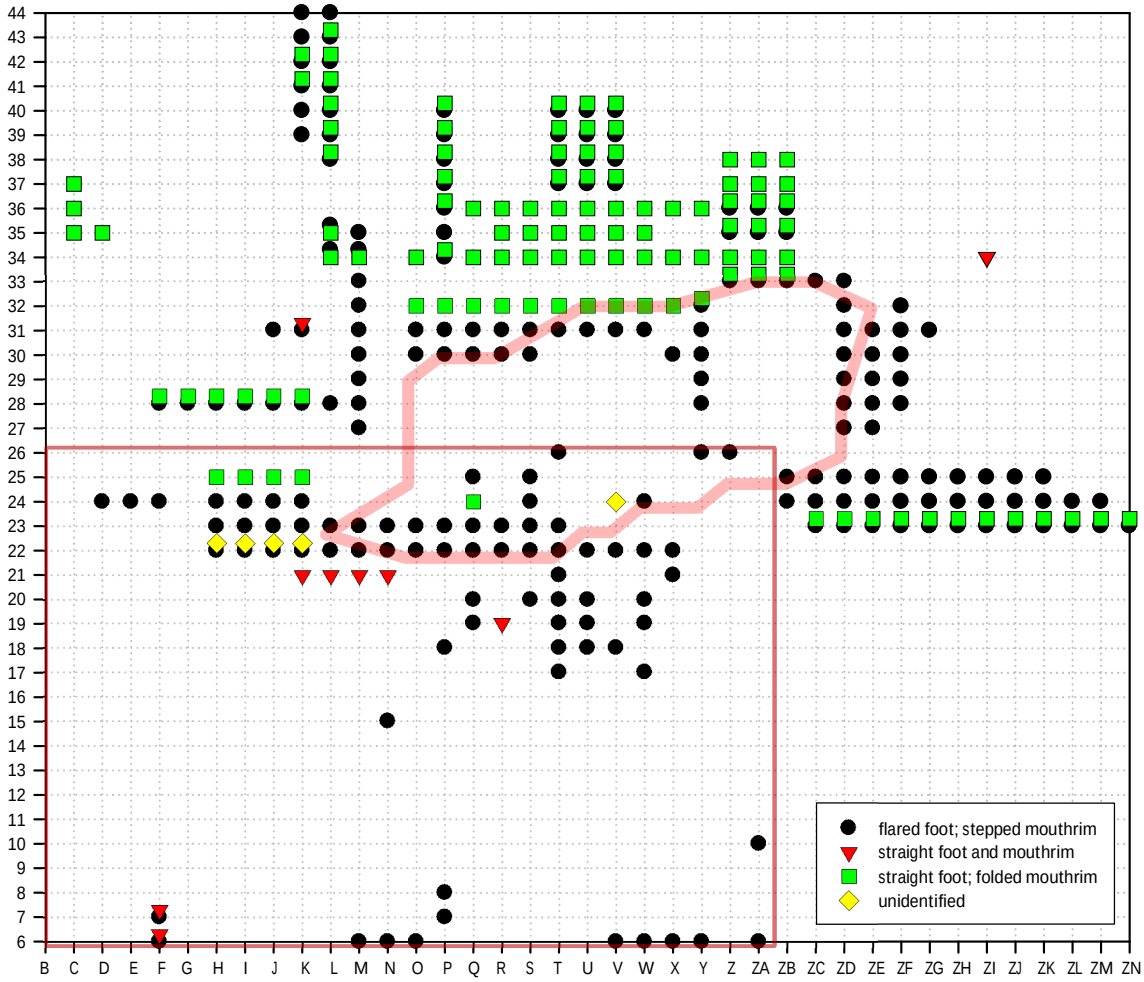


Fig.2.2-168: Whiteware ‘pots’, corrected distribution by proposed form criteria.

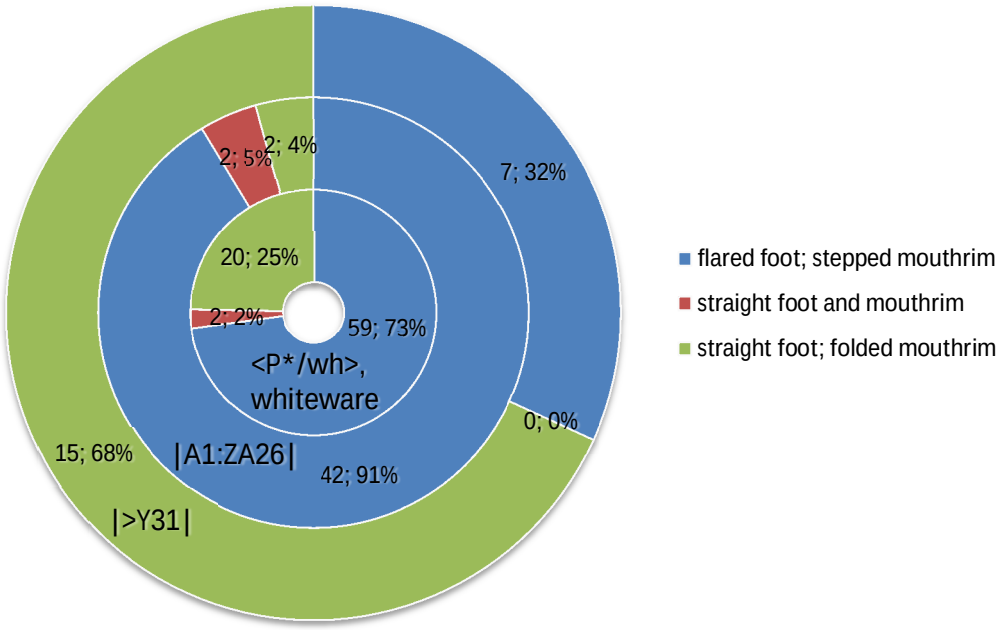


Fig.2.2-169: Composition per grid area, excluding <P38-42/wh>.

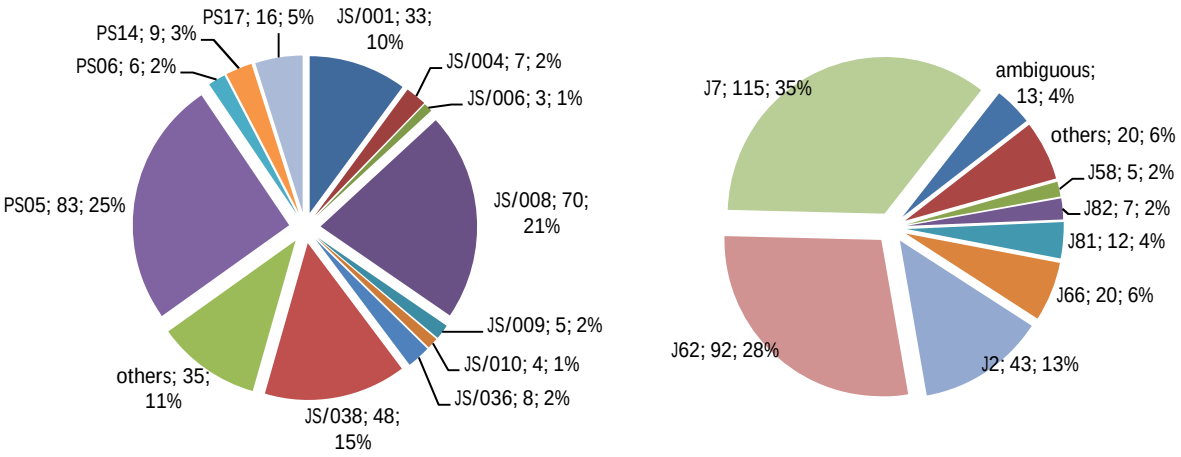
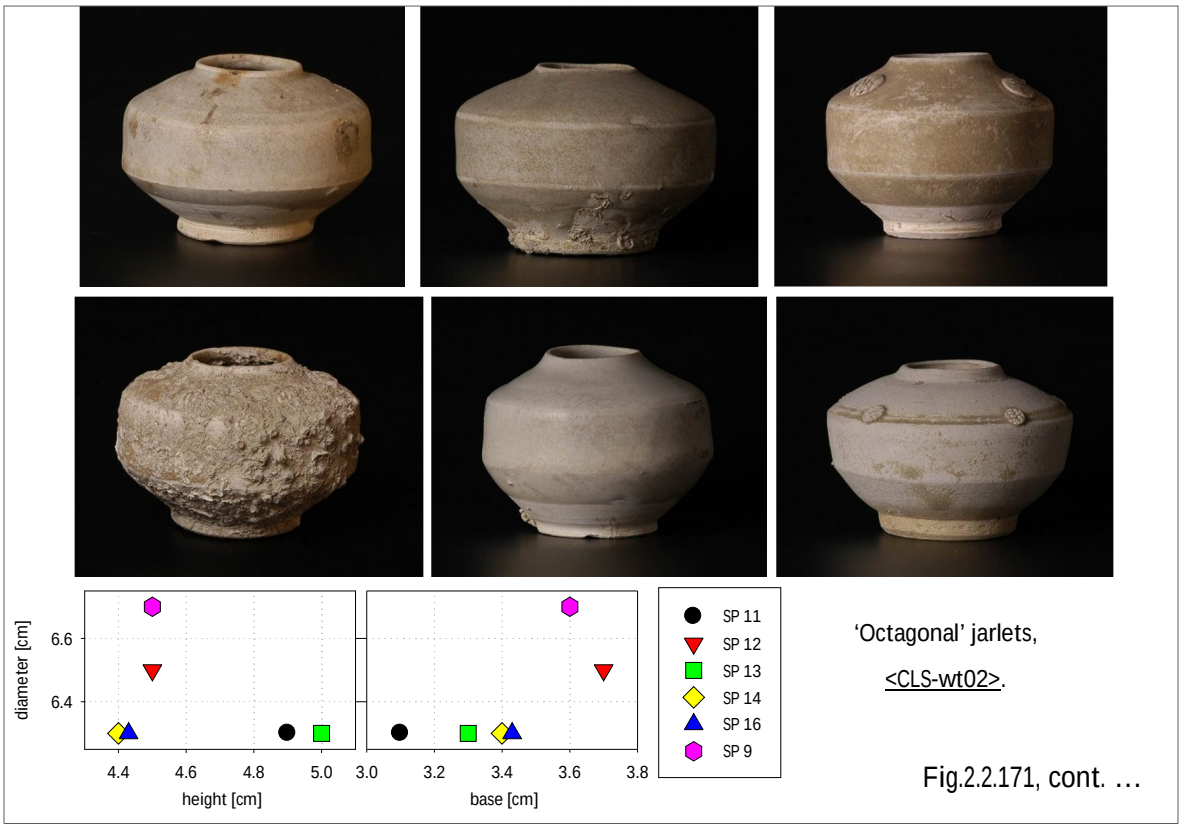


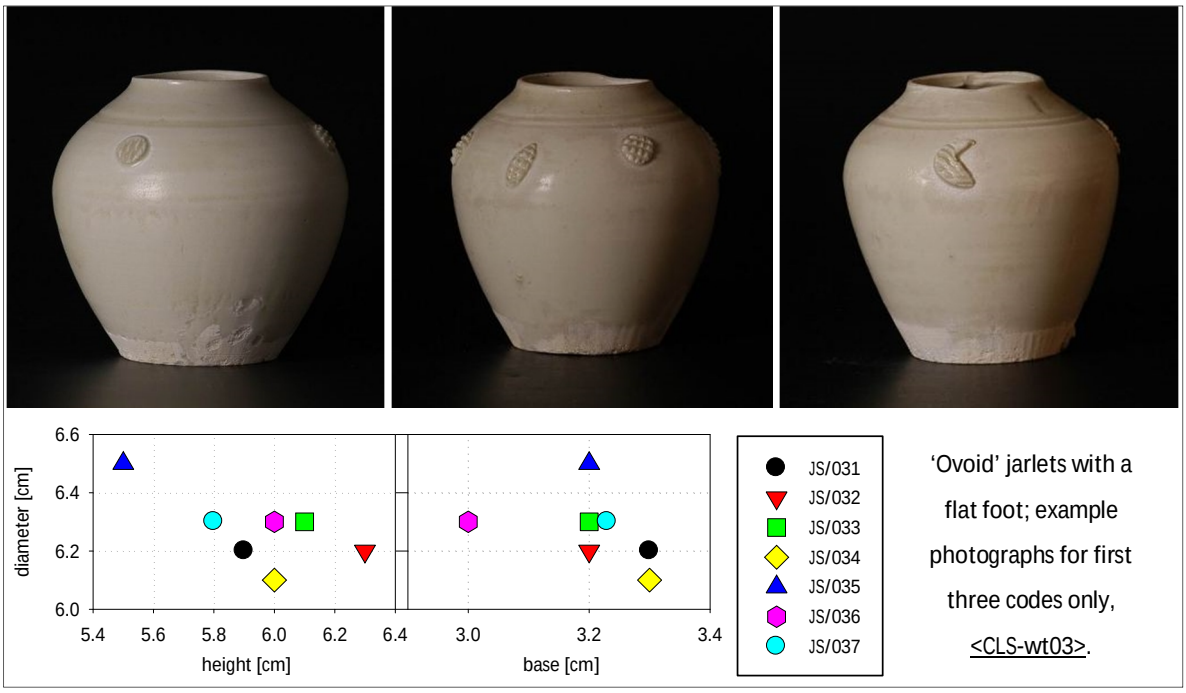
Fig.2.2-170: Categorisation of “closed” whitewares of smaller sizes(left, <wh>; right, <loc>).

Jarlets with an extended and trumpeted neck, here example photographs of <JS038/wh>, <JS040/wh> and <JS042/wh>; <CLN-wt01>.



‘Octagonal’ jarlets, <CLS-wt02>.

Fig.2.2.171, cont. …



'Ovoid' jarlets with a flat foot; example photographs for first three codes only, <CLS-wt03>.

<wh>	base	mouth	diameter	height
JS/001	3.8	3.4	6.6	6.1
JS/004	3.3	3.1	6.6	6.2

Small globular plain jarlets, <CLS-wt04>.

Small 'squat' petaled jarlets, <CLS-wt05>.

Fig.2.2.171, cont.: Proposed categorisations for "closed" whitewares with distinct shapes.

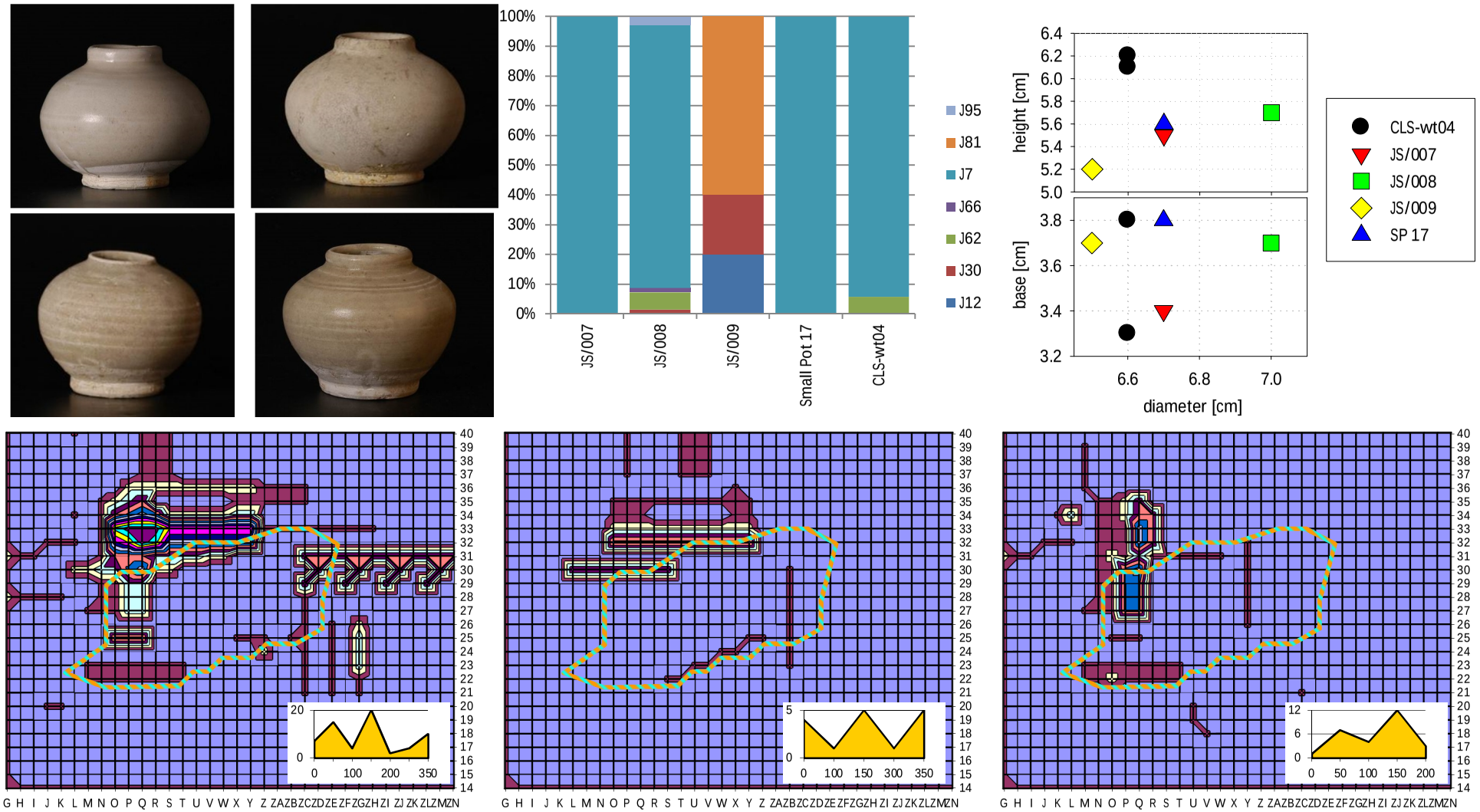


Fig.2.2-172: Example photographs and <loc> categorisations for <JS007-9/wh> and <SP 17/wh>, above left; their measurements, here compared to <CLS-wt04>, above right; distribution patterns for (left to right) <JS008/wh>, <SP 17/wh> and <CLS-wt04>.

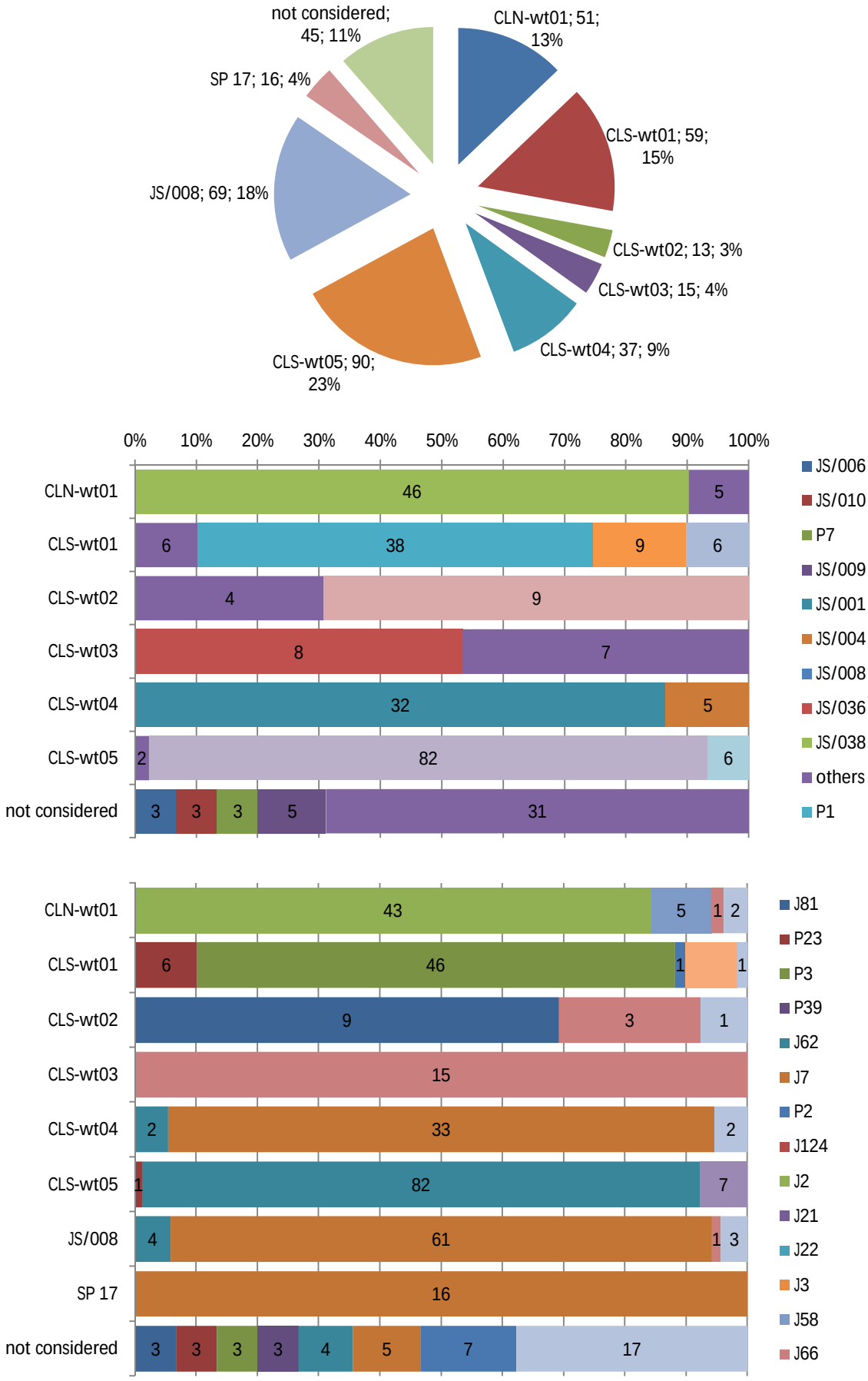
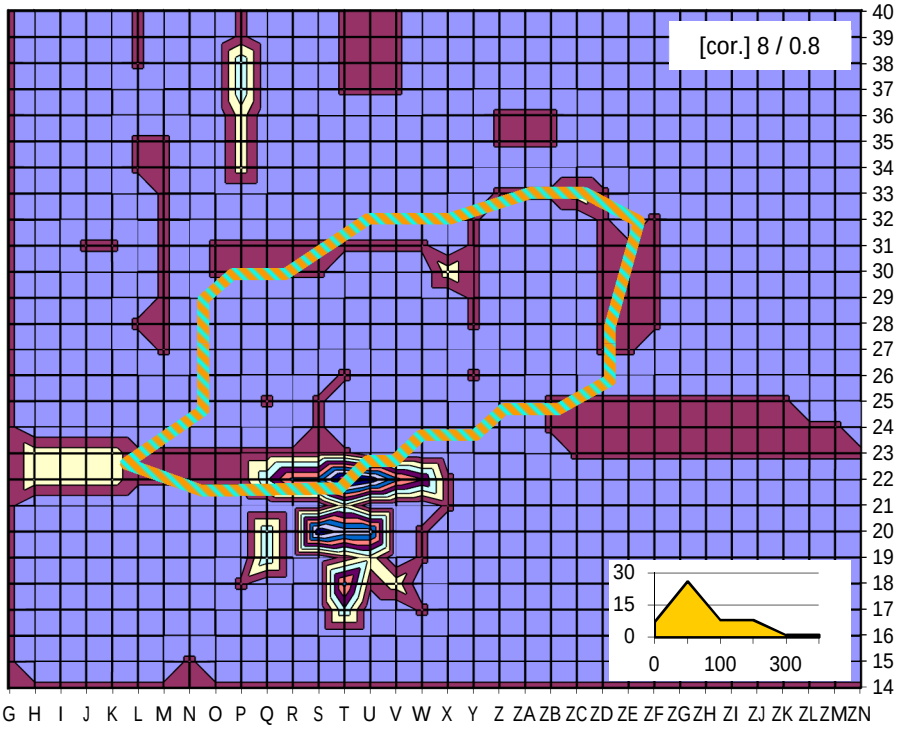


Fig.2.2-173: Overview of proposed categorisations of “closed” whitewares; comparison to <wh> waregroups (centre); to <loc> codes (below).



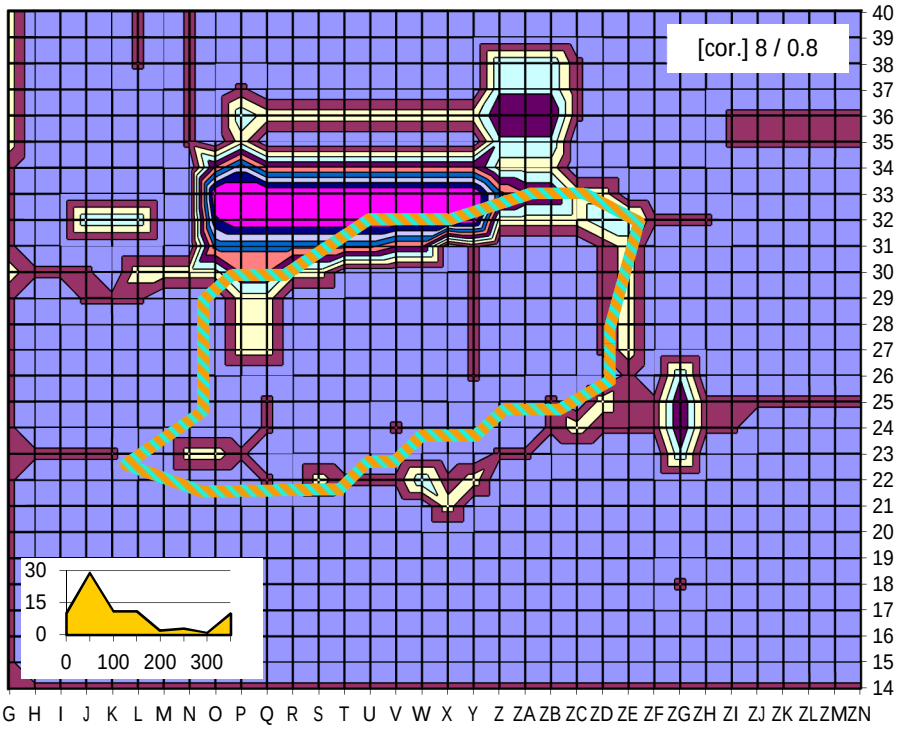
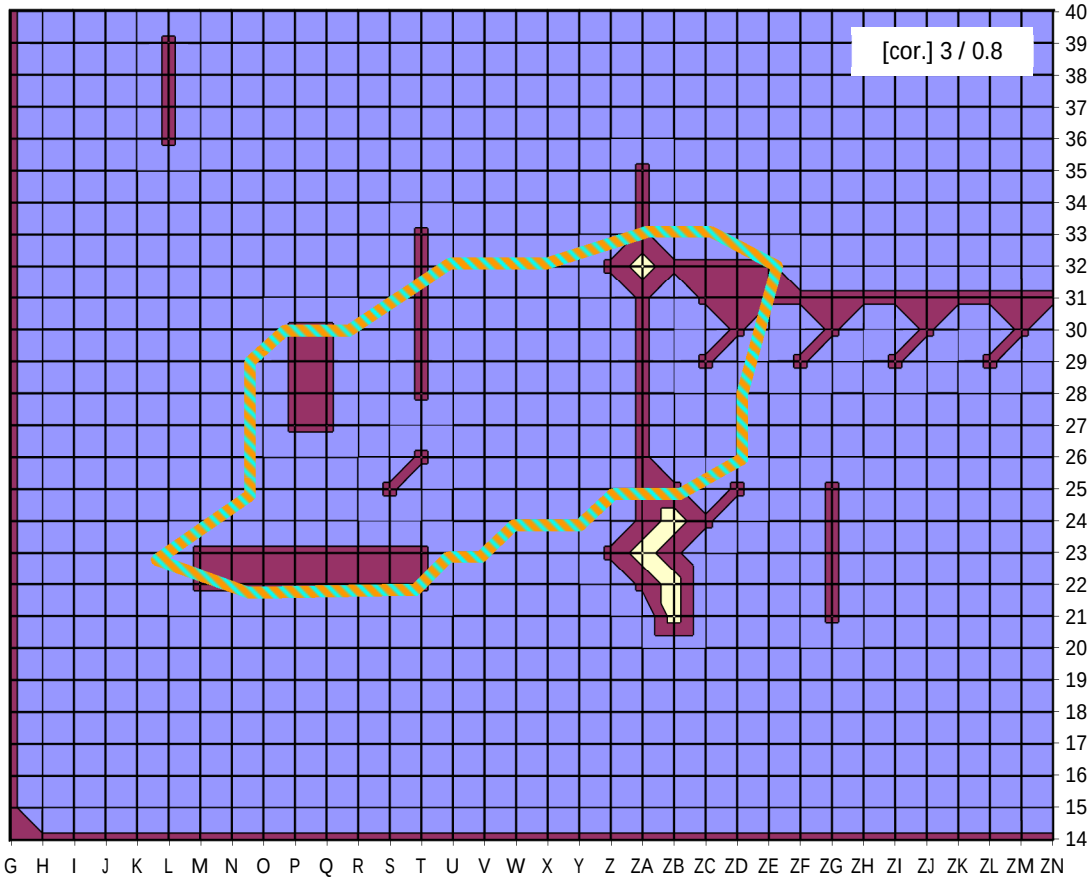


Fig.2.2-174: Example photographs and distribution patterns for <CLS-wt01>, (above left and centre), <CLS-wt05>, (above right and below).



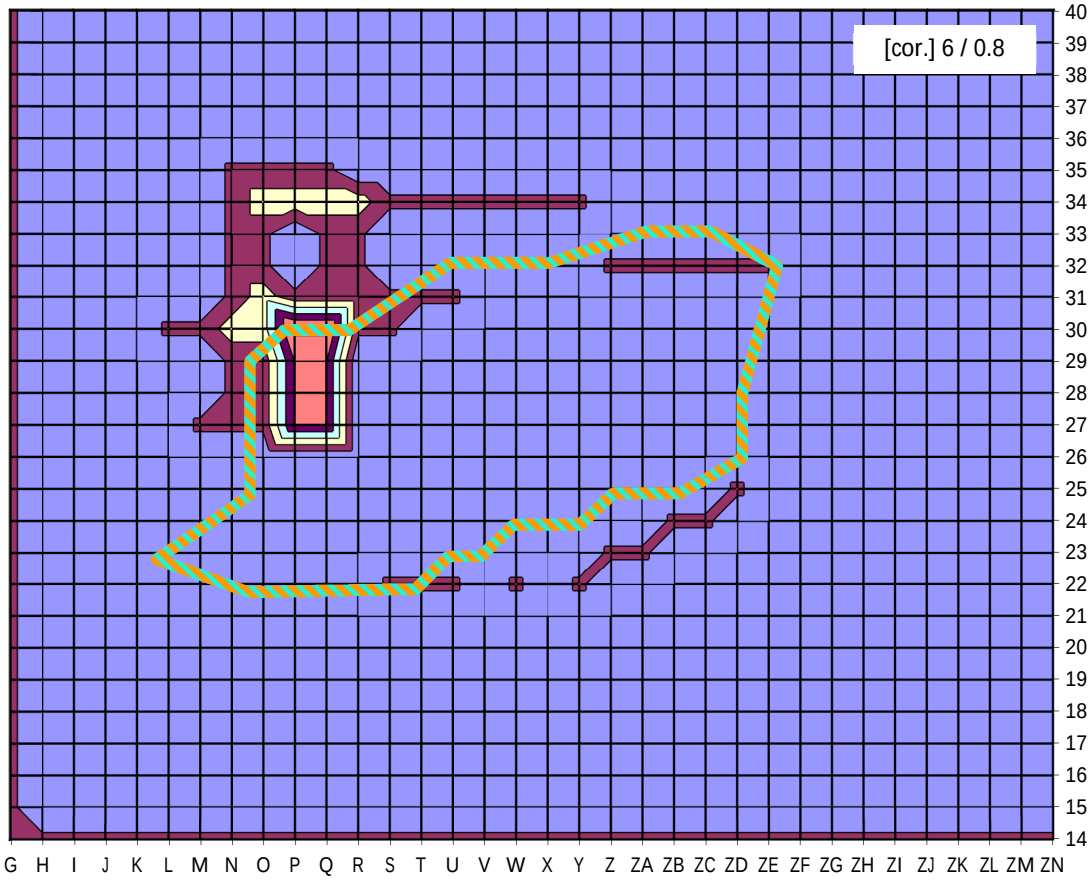


Fig.2.2-175: Distribution patterns for <CLS-wt02> (above) and <CLS-wt03> (below)

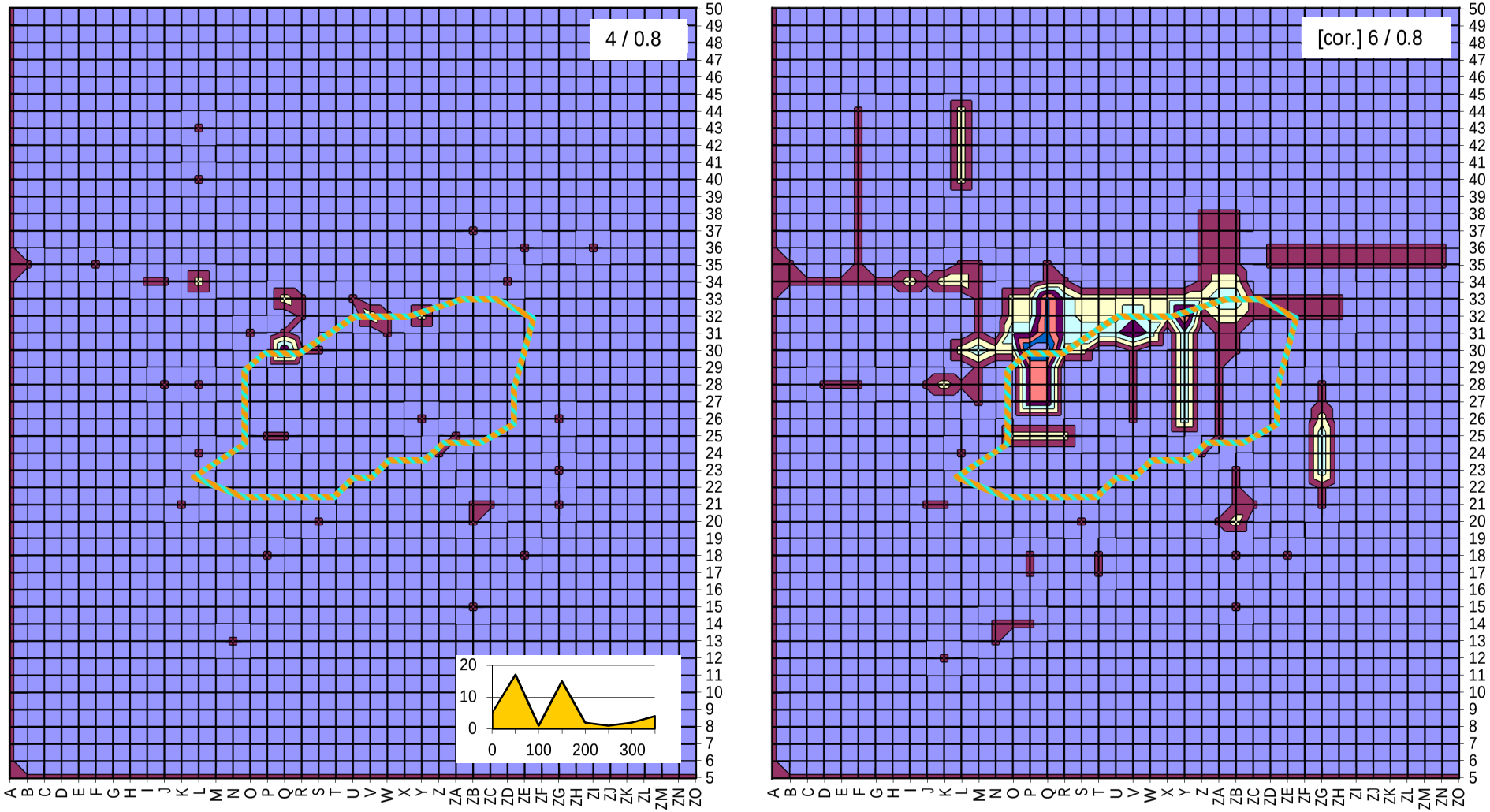
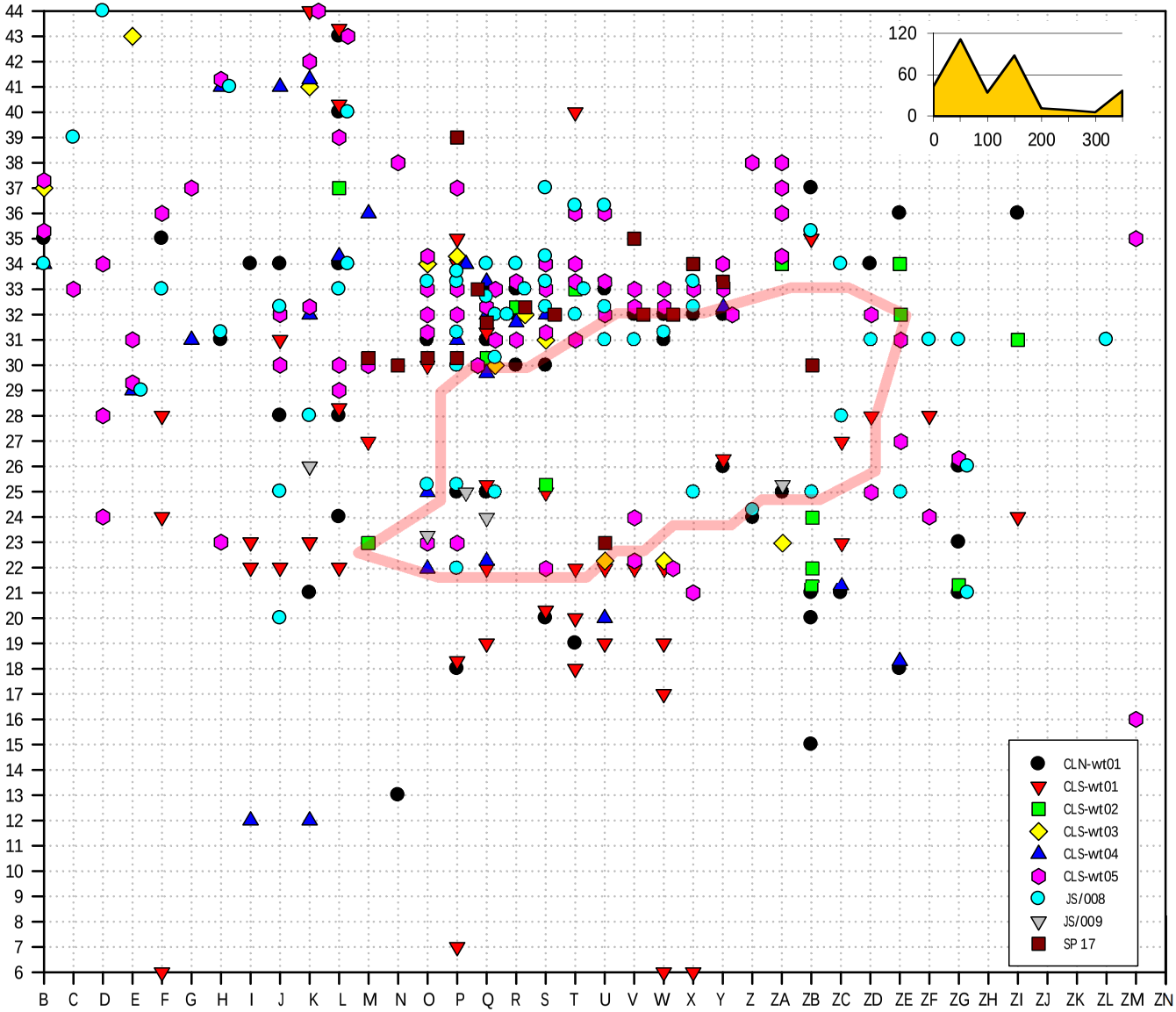


Fig.2.2-176: Distribution of <CLN-wt01>.



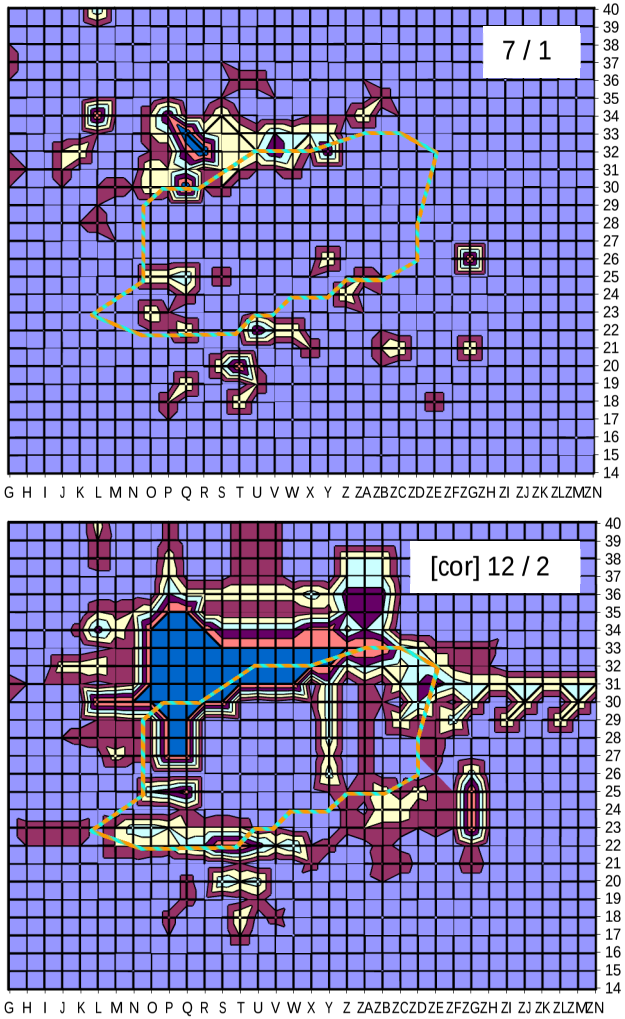


Fig.2.2-177: Distribution by waregroups and totals of major categories of “closed” whitewares.

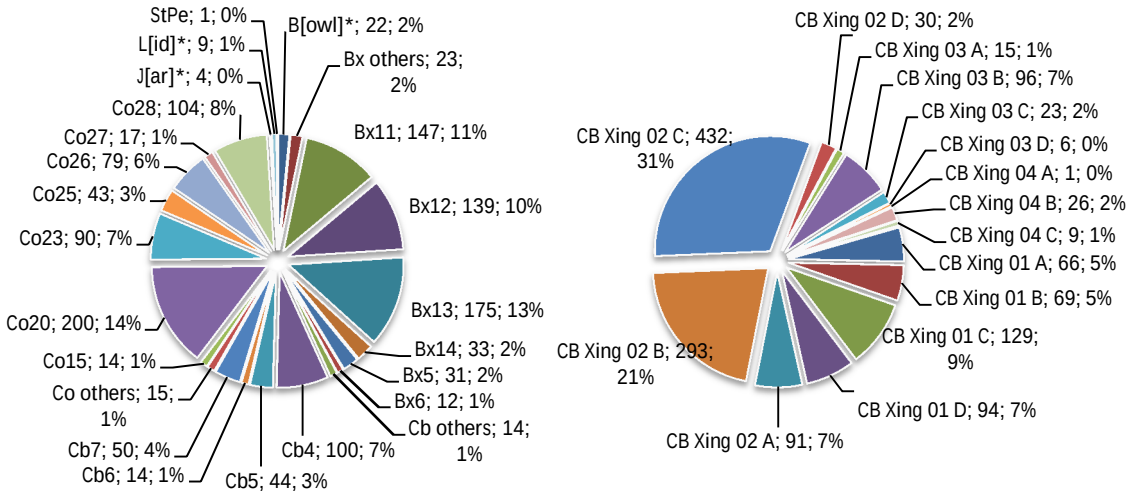


Fig.2.2-178: Categorisations of white-glazed covered boxes in <loc> (left) and <wh> records (right).

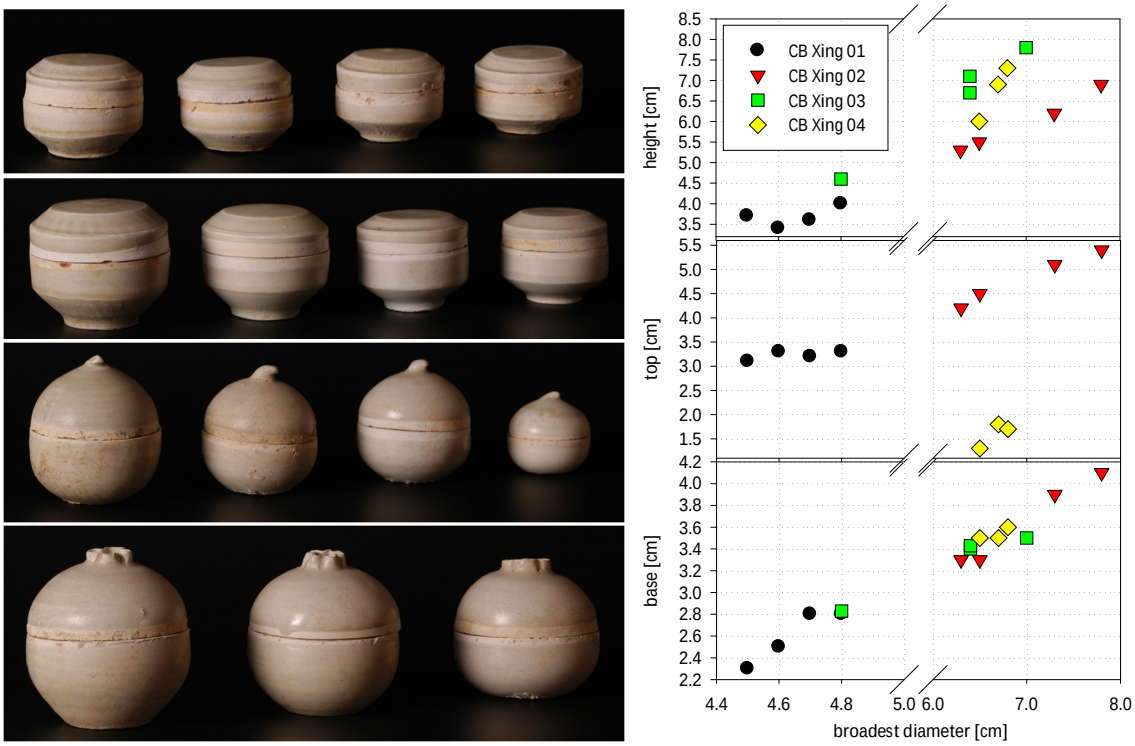


Fig.2.2-179: Example photographs and measurements for <wh> categorisations.

Fig.2.2-180: Example photographs for <CB Xing 02-4a/wh>, noting numbers for cover and box base.

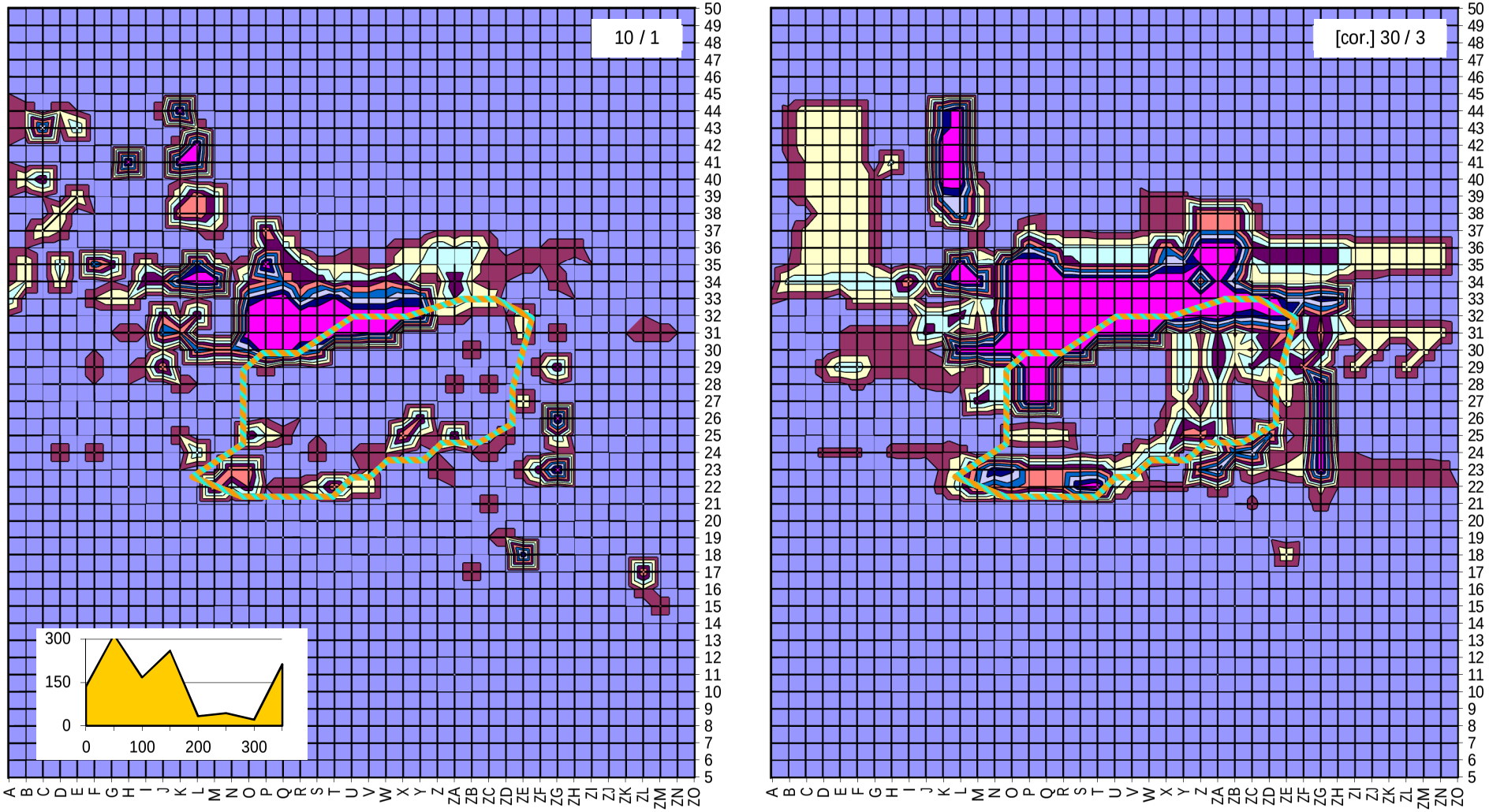


Fig.2.2.-181: Distribution of all white-glazed covered boxes.

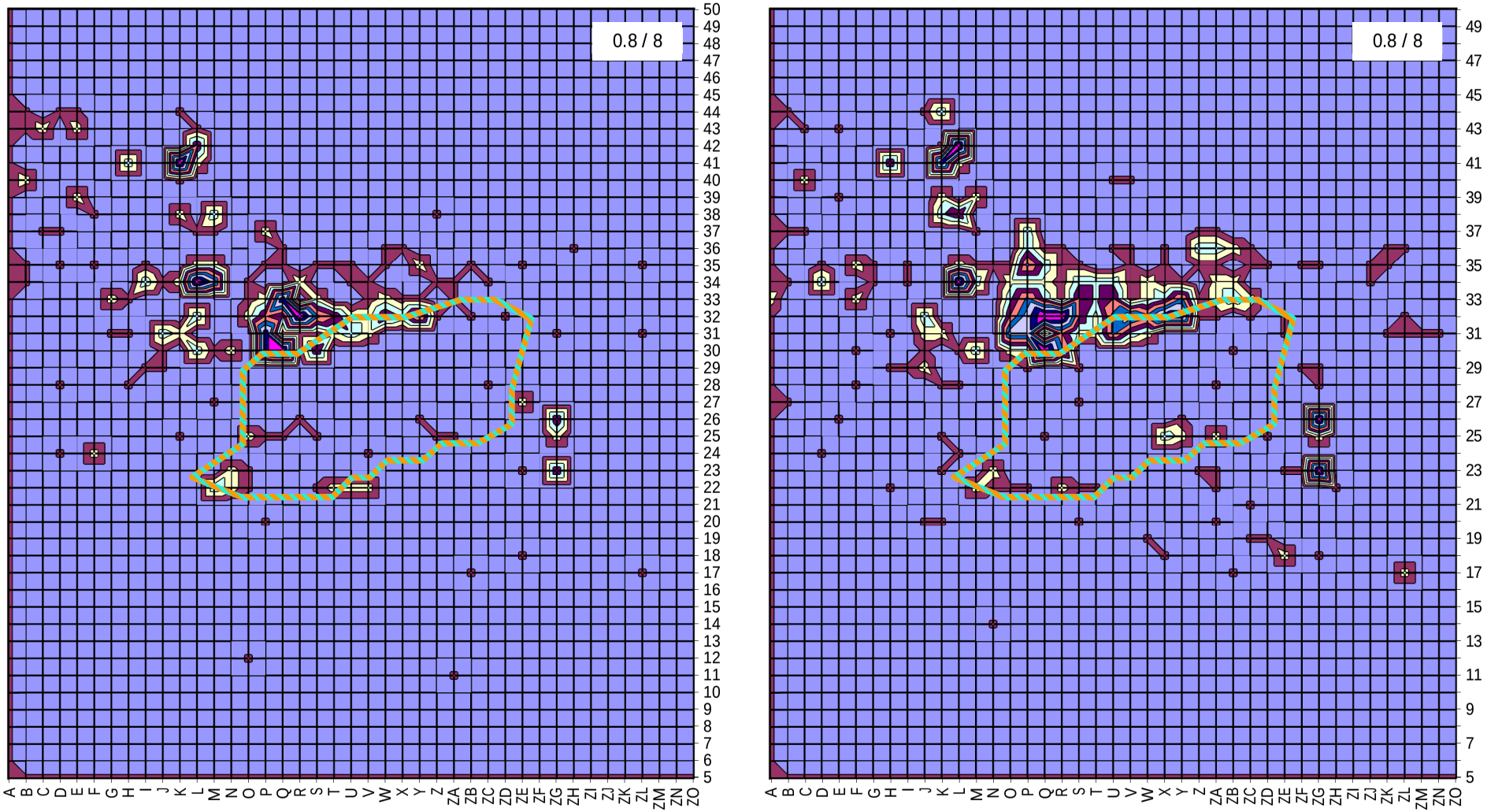


Fig.2.2.-182: Distribution of <CB Xing 02b/wh> (left) and <CB Xing 02c/wh> (right); cont. …

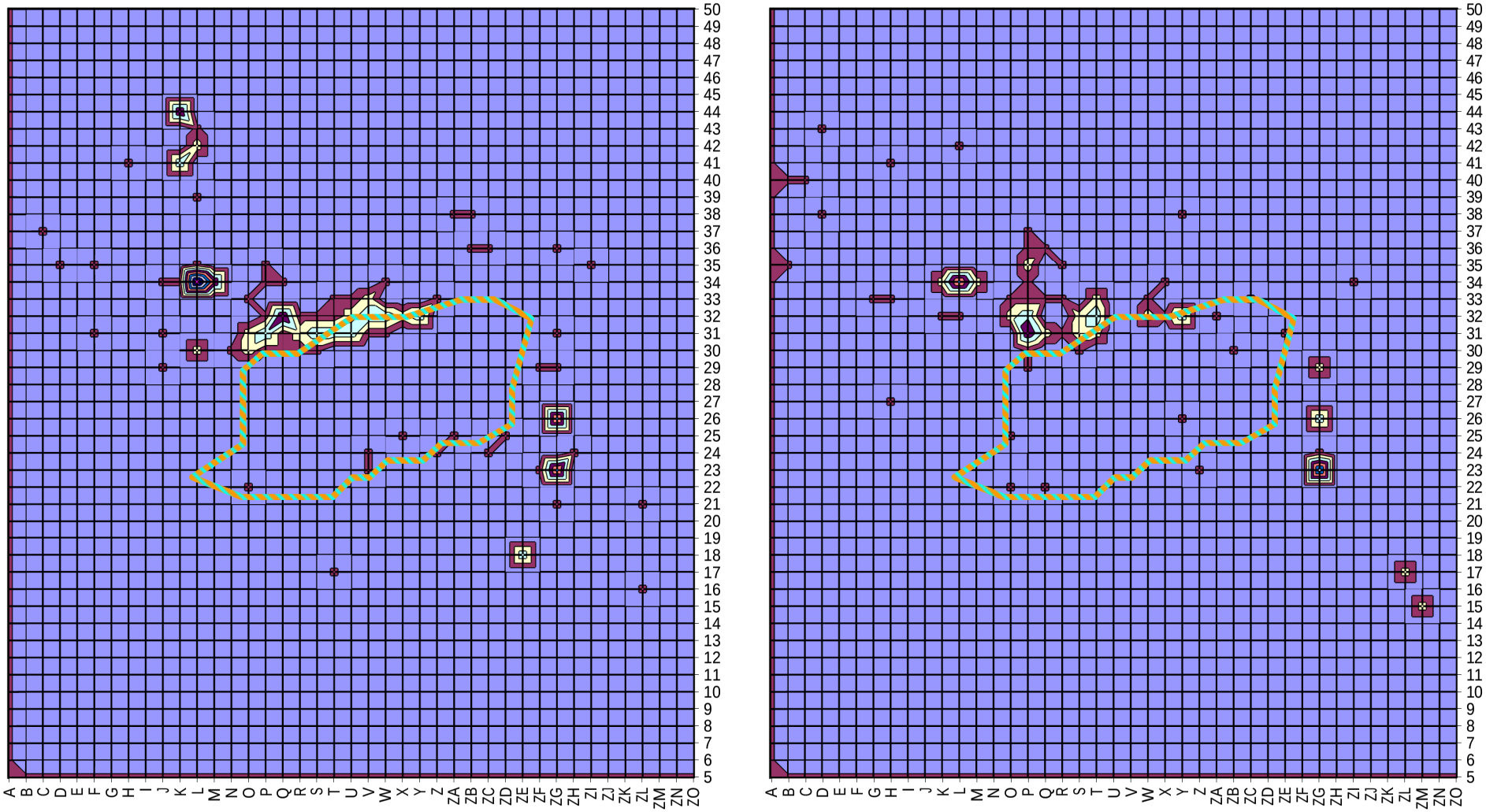


Fig.2.2.-182, cont.: Distribution of <CB Xing 01c/wh> (left) and <CB Xing 01d/wh> (right).

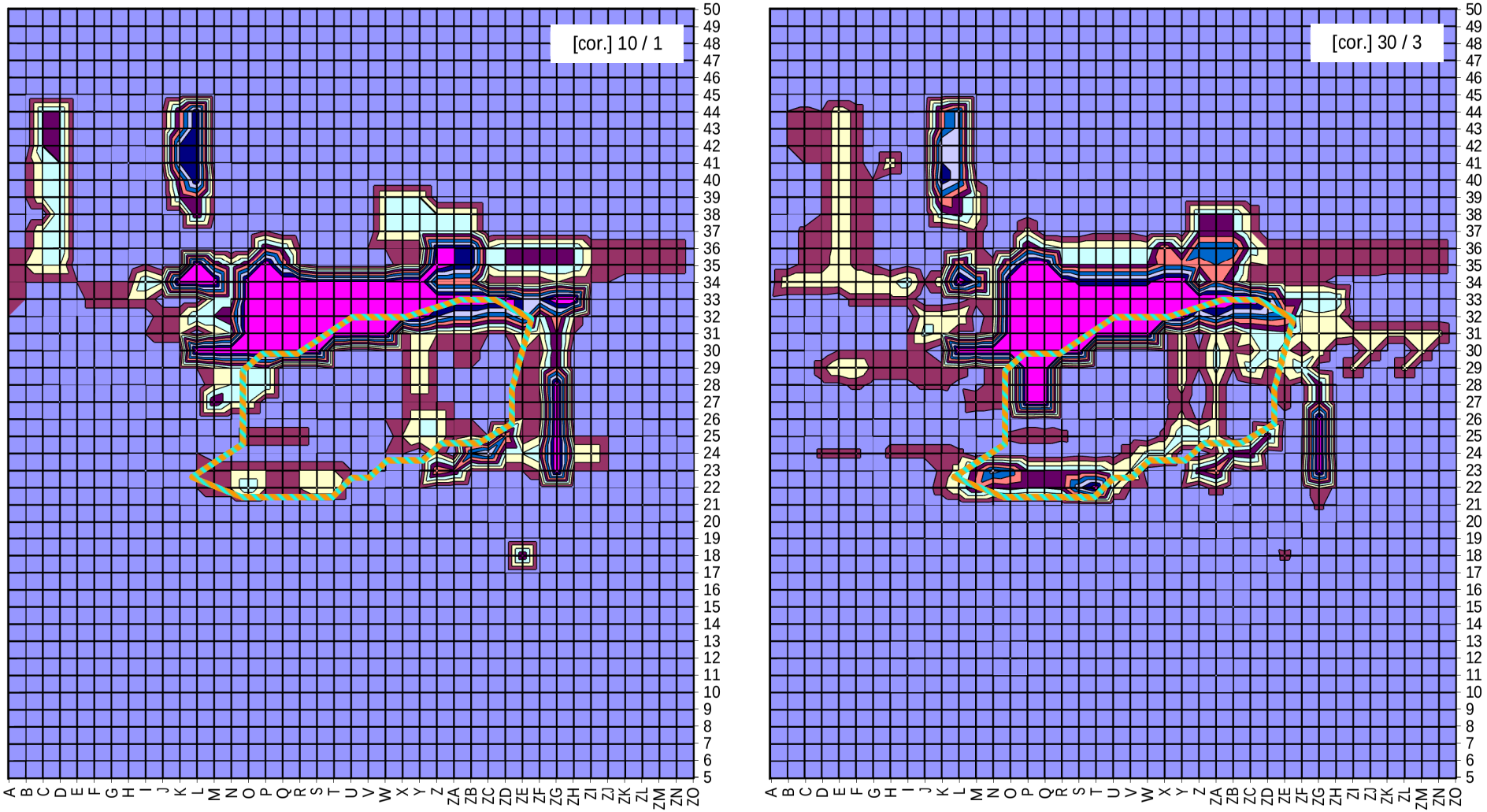


Fig.2.2.-183: Distribution of <CB Xing 01*/wh> (left) and <CB Xing 02*/wh> (right); cont. …

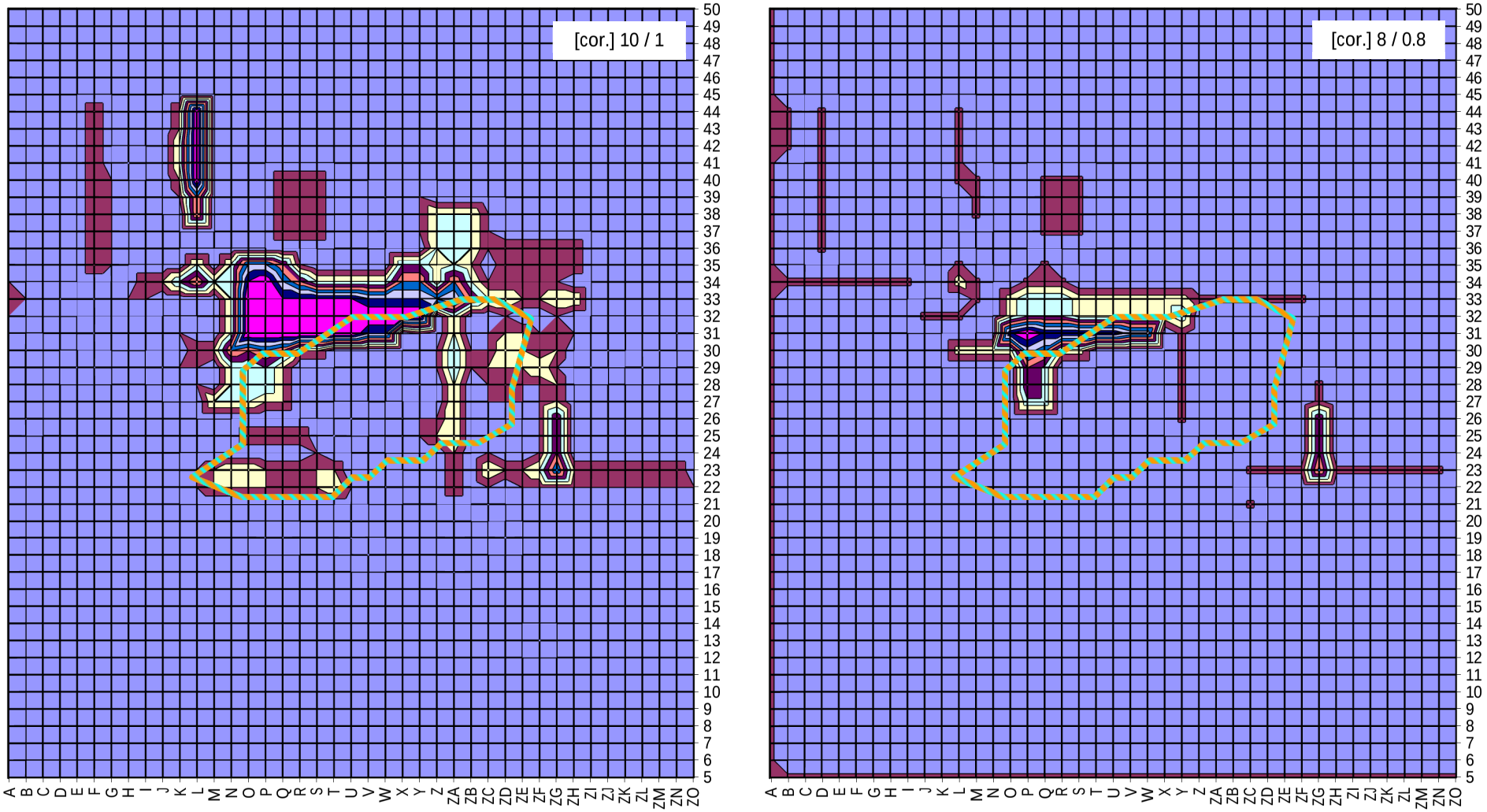


Fig.2.2.-183, cont.: Distribution of <CB Xing 03*/wh> (left) and <CB Xing 04*/wh> (right).

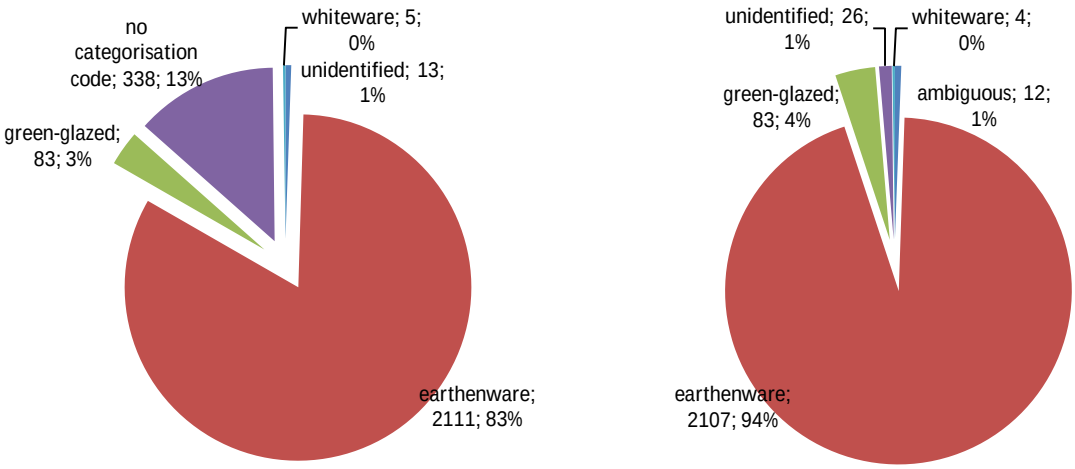


Fig.2.2-184: Breakdowns of records of earthenwares. Left, <loc> entries for 'material' and/or 'colour' that appear to denote earthenwares to <wh> entries crosschecked against available photography; right, <wh> entries to <loc> entries.

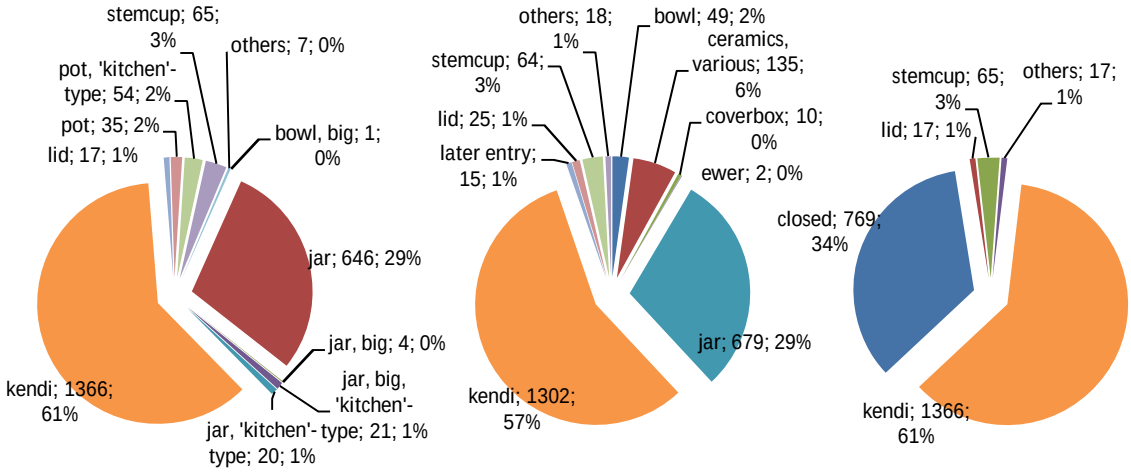
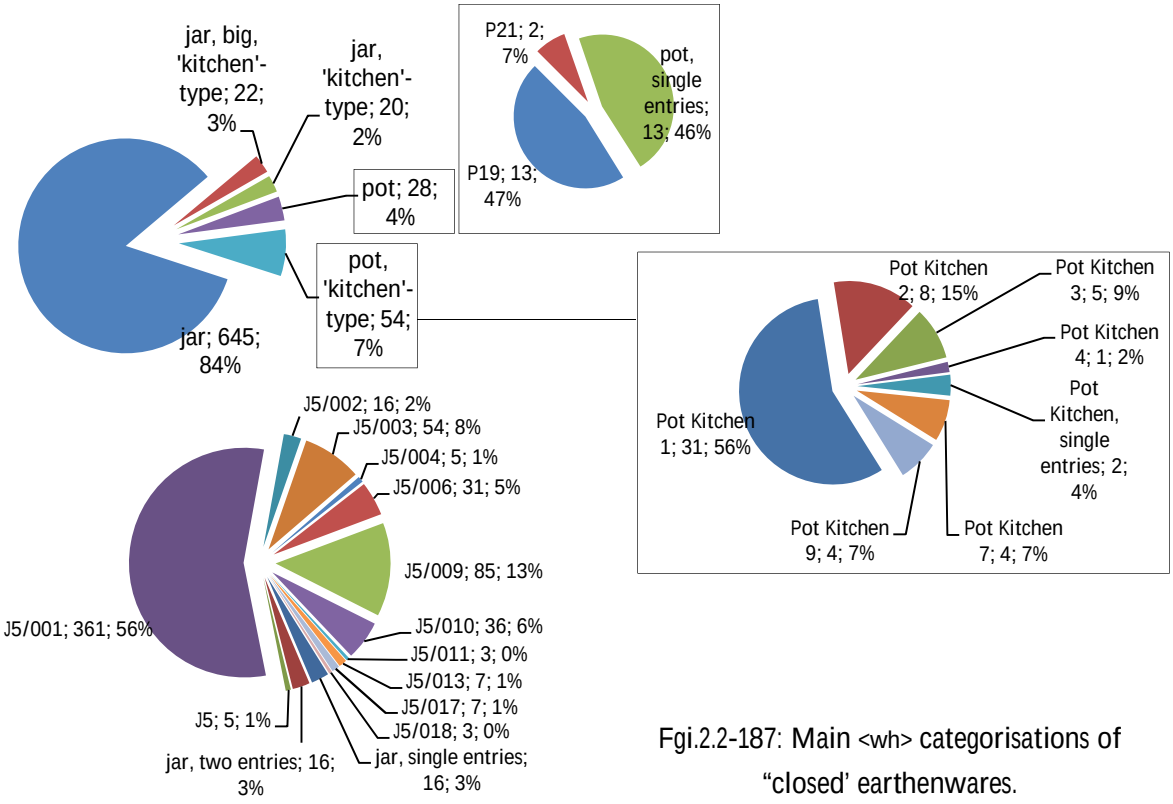


Fig.2.2-185: Categorisations of earthenwares reported in the <wh> data (left); the <loc> records (centre); and the definitions here applied (right).

Fig.2.2-186: Variations in external colour.



Fgi.2.2-187: Main <wh> categorisations of "closed' earthenwares.

Fig.2.2-188: Example photographs for <B[ig]J[ar]K[itchen]*/wh> (left) and <J[ar]5/006/wh> (right).

Fig.2.2-189: Example photographs for <P[ot]22/wh> (left) and <P[ot]K[itchen]6/wh> (right).

Fig.2.2-190: Example photographs for <PK8/wh> (above) and <PK9/wh> (below).

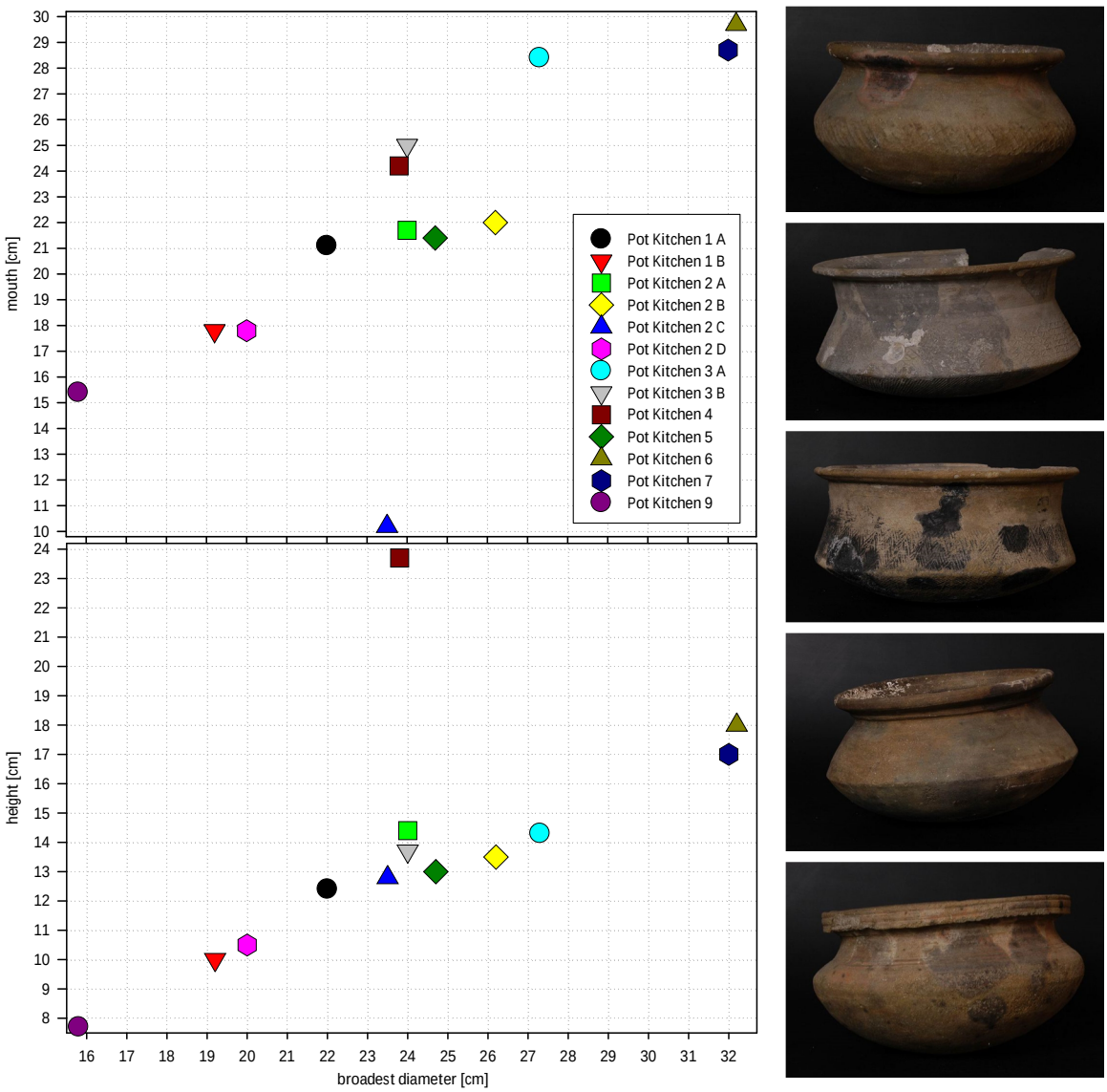


Fig.2.2-191: Measurements and (remaining) example photographs for <PK*/wh>.

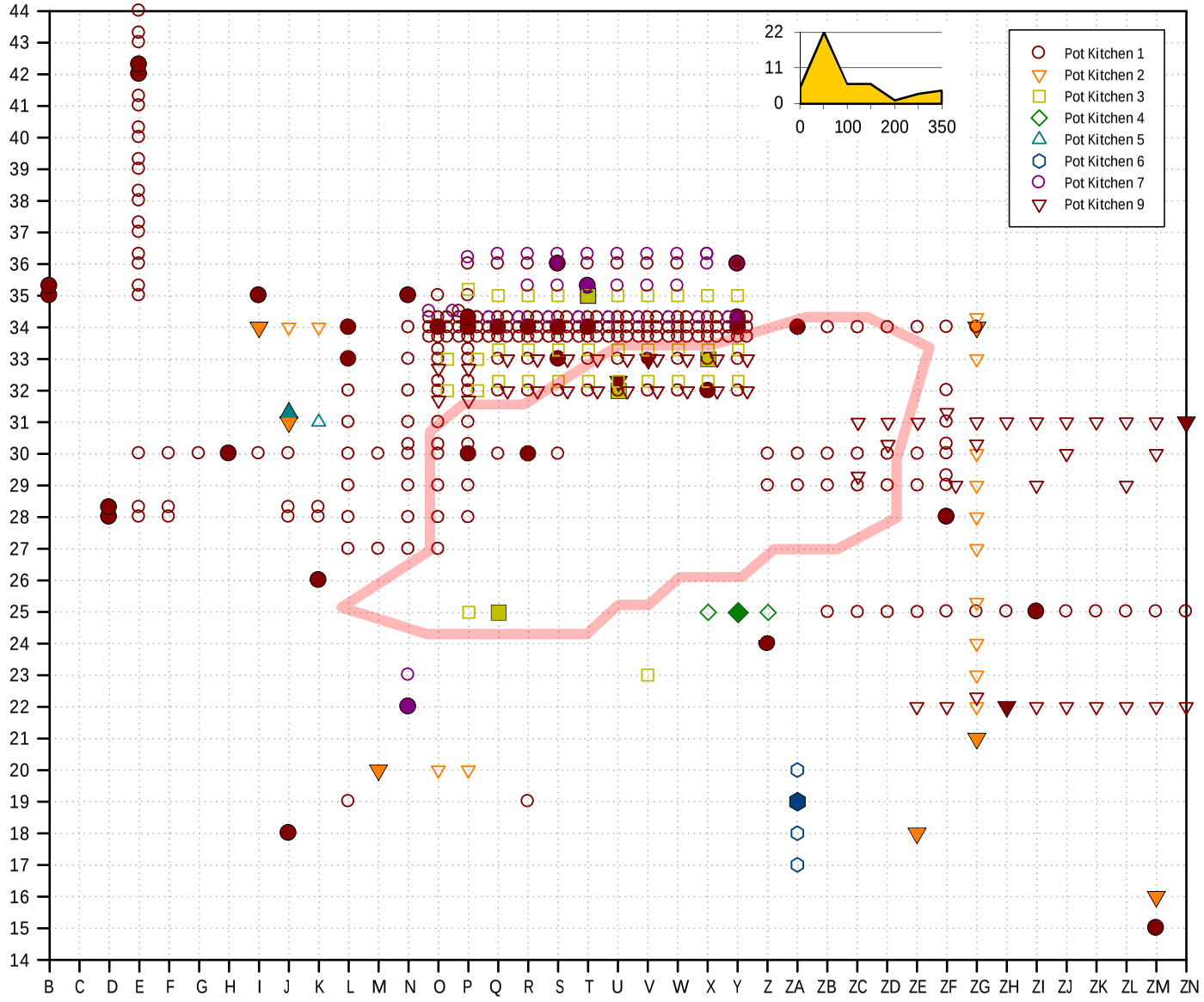


Fig.2.2-192: Corrected distribution plot of <PK*/wh>; actual counts of objects registered per grid section/date; original entries are filled, corrected ones outlined.

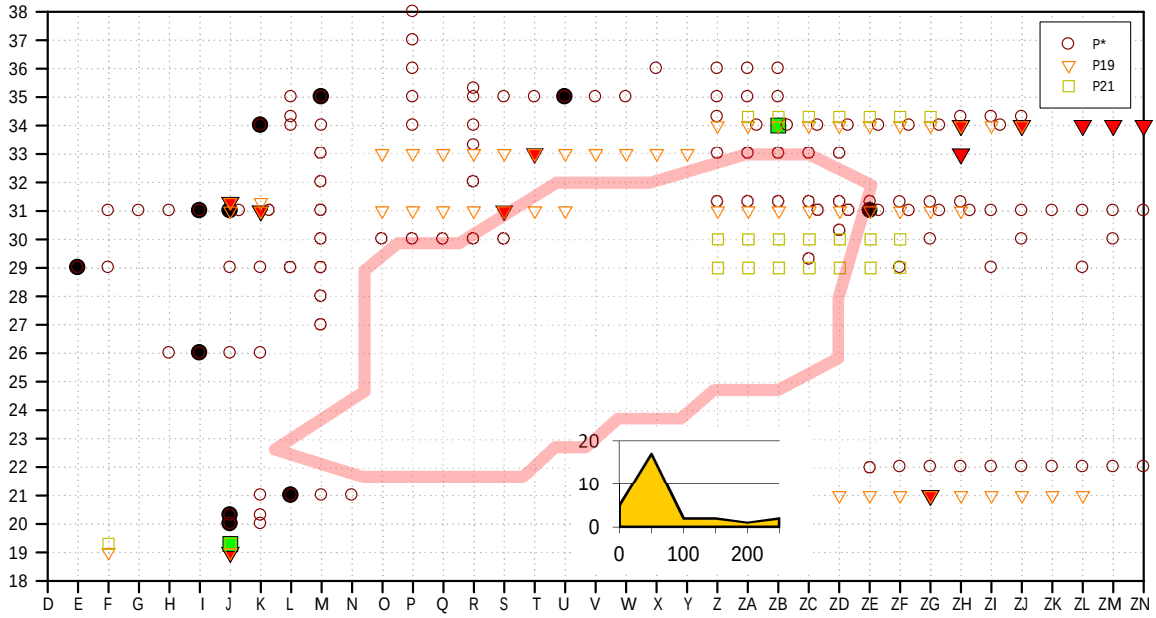


Fig.2.2-193: Corrected distribution plot of earthenware <P*/wh>; actual counts of objects registered per grid section/date; original entries filled, correcting additions outlined.

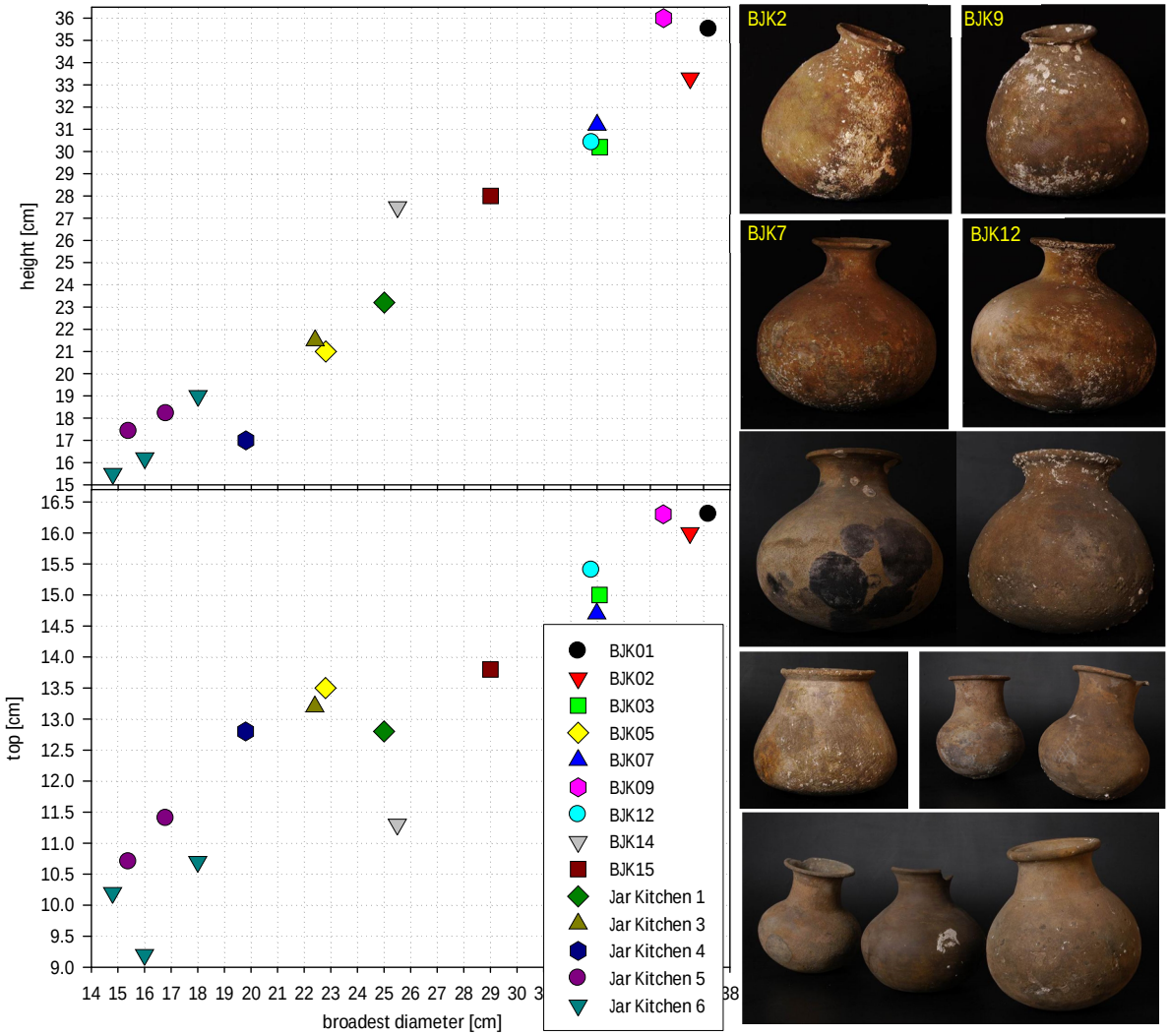


Fig.2.2-194: Measurements and example photographs for <B[ig]J[ar]K[itchen]/wh> and <JarKitchen*/wh>.

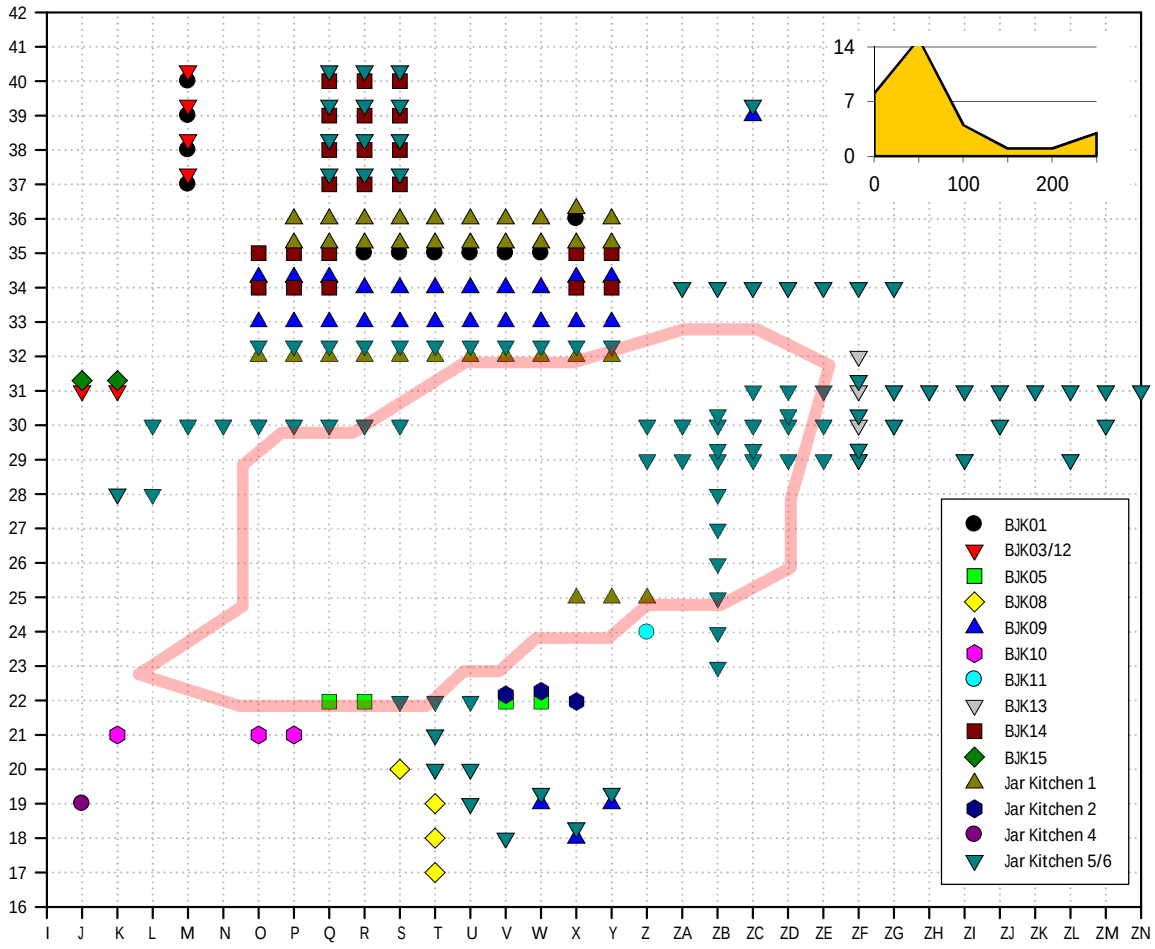


Fig.2.2-195: Corrected distribution plot of earthenware <BJK*/wh> and <JK*/wh>; actual counts of objects registered per grid section/date.

Fig.2.2-196: "Three-folded" mouthrims, <PK01> and <PK07>. Note the coarse grained clay and the red burnish or paint on the smaller vessel above.

Fig.2.2-197: Decorations on <PK4/wh>, <BJK4/wh> and <JK4/wh>.

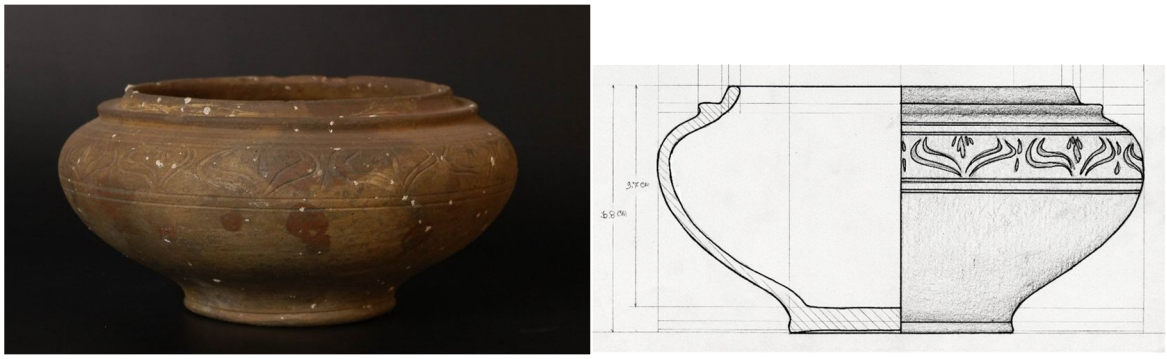


Fig.2.2-198: Example photograph and line drawing of <P30/ wh>.

Fig.2.2-199: Example photograph and line drawing of <J5/001/wh>.

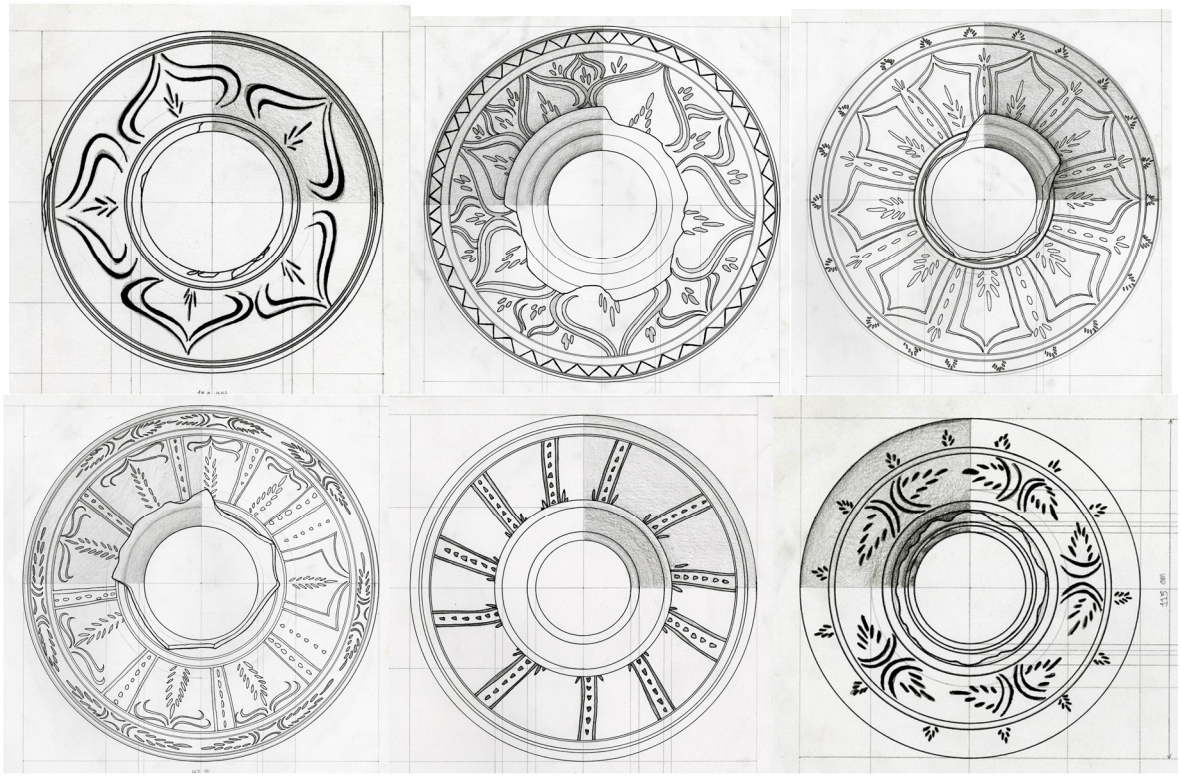


Fig.2.2-200: Line drawings of incised motifs on earthenware jars. From top left to bottom right: <J5/031>, <J5/019>, <J5/018>, <J5/016>, <J5/008>, <J5/025>.

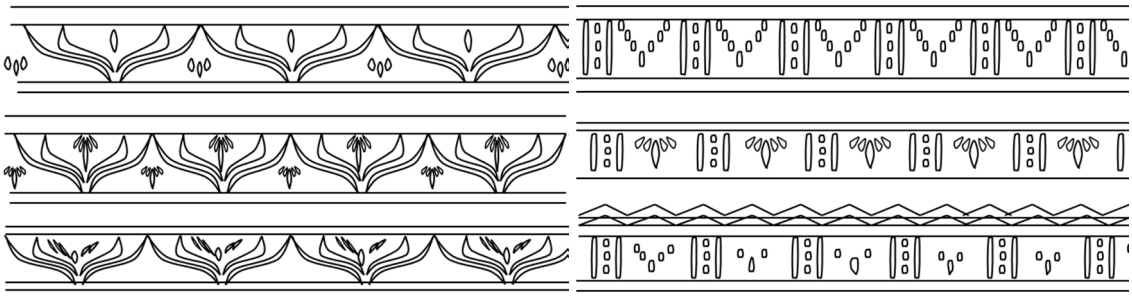


Fig.2.2-201: Roll-off line drawings of examples for decorations on earthenware jars in Karawang cargo.

Fig.2.2-202: Left, necked jar, Karawang cargo; centre, vessel with incised petals, Penang, 2009; right, vessel with painted petals combined with strokes, Malacca, 2009.

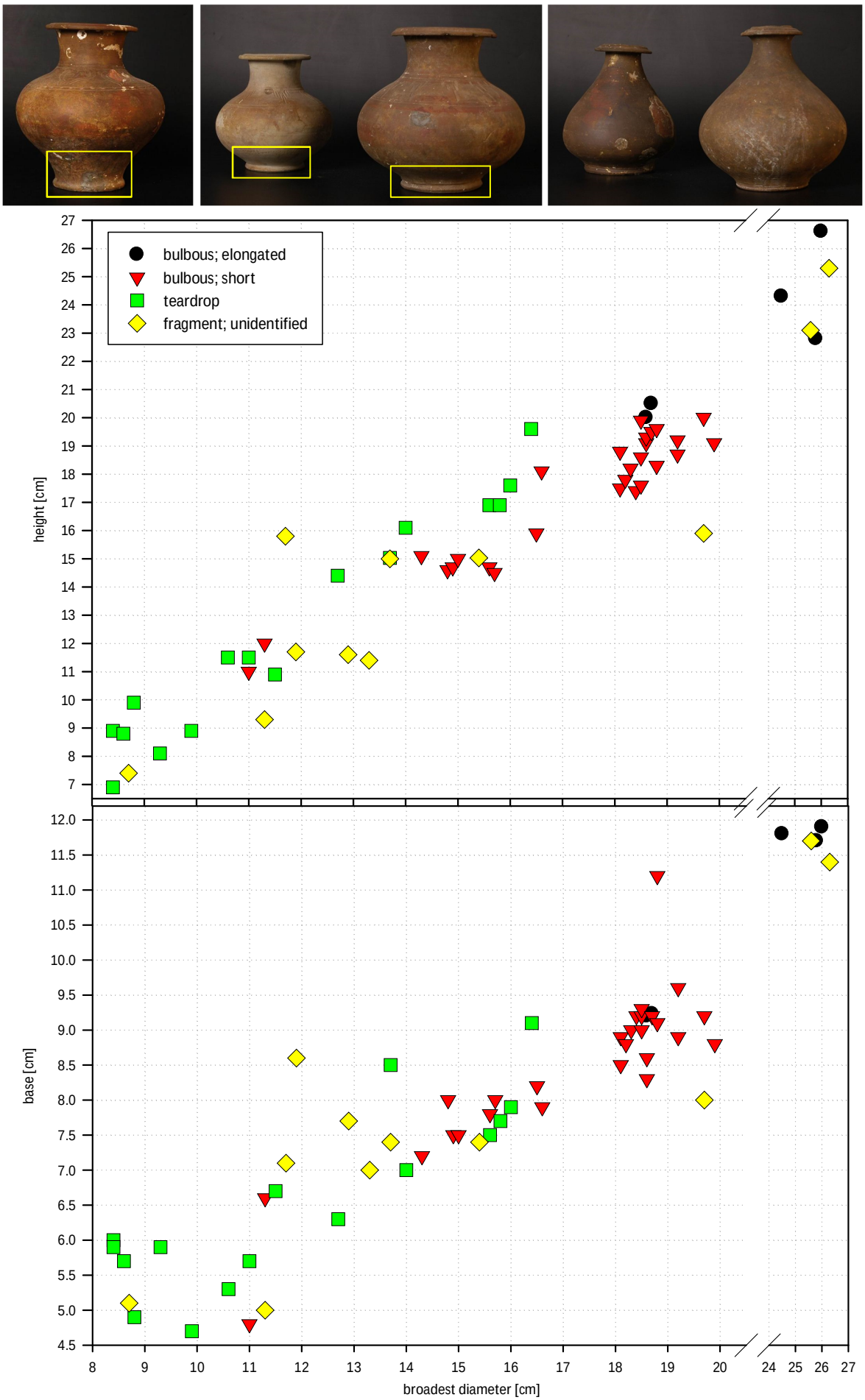


Fig.2.2-203: Proposed division by profiles and measurements of earthenware ‘jars’.

Fig.2.2-204: Example photograph for <J5/003*/wh>. Note the red 'burnish' or paint on the larger vessel.

Fig.2.2-205: Example photographs for the largest earthenware 'jars'. Left to right, <J5/017*/wh>, <J5/016/wh> and <J5/019/wh>.

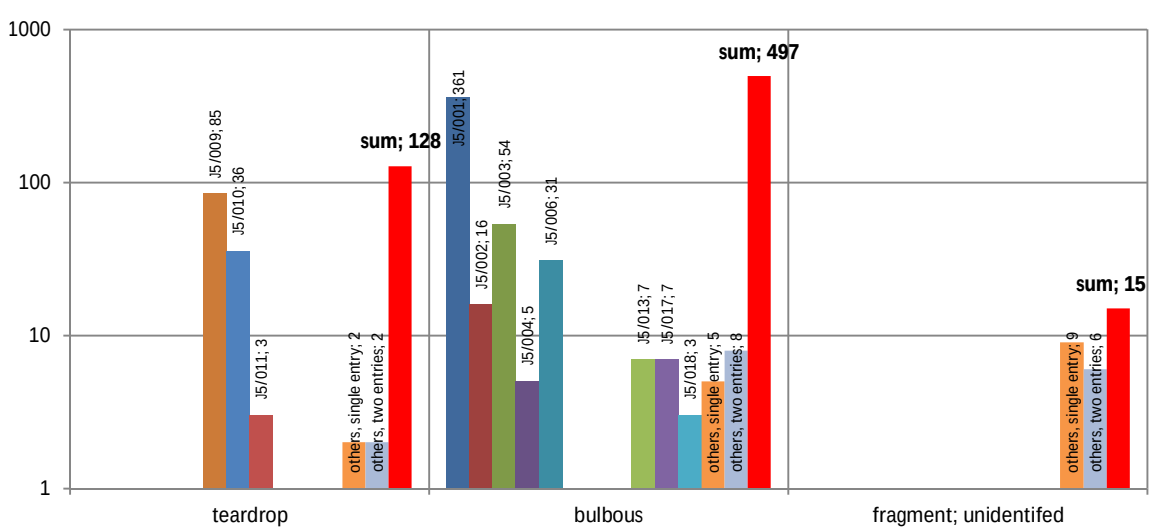


Fig.2.2-206: Overall numbers of earthenware 'jars' by proposed profiles and breakdowns into <wh> categorisations.

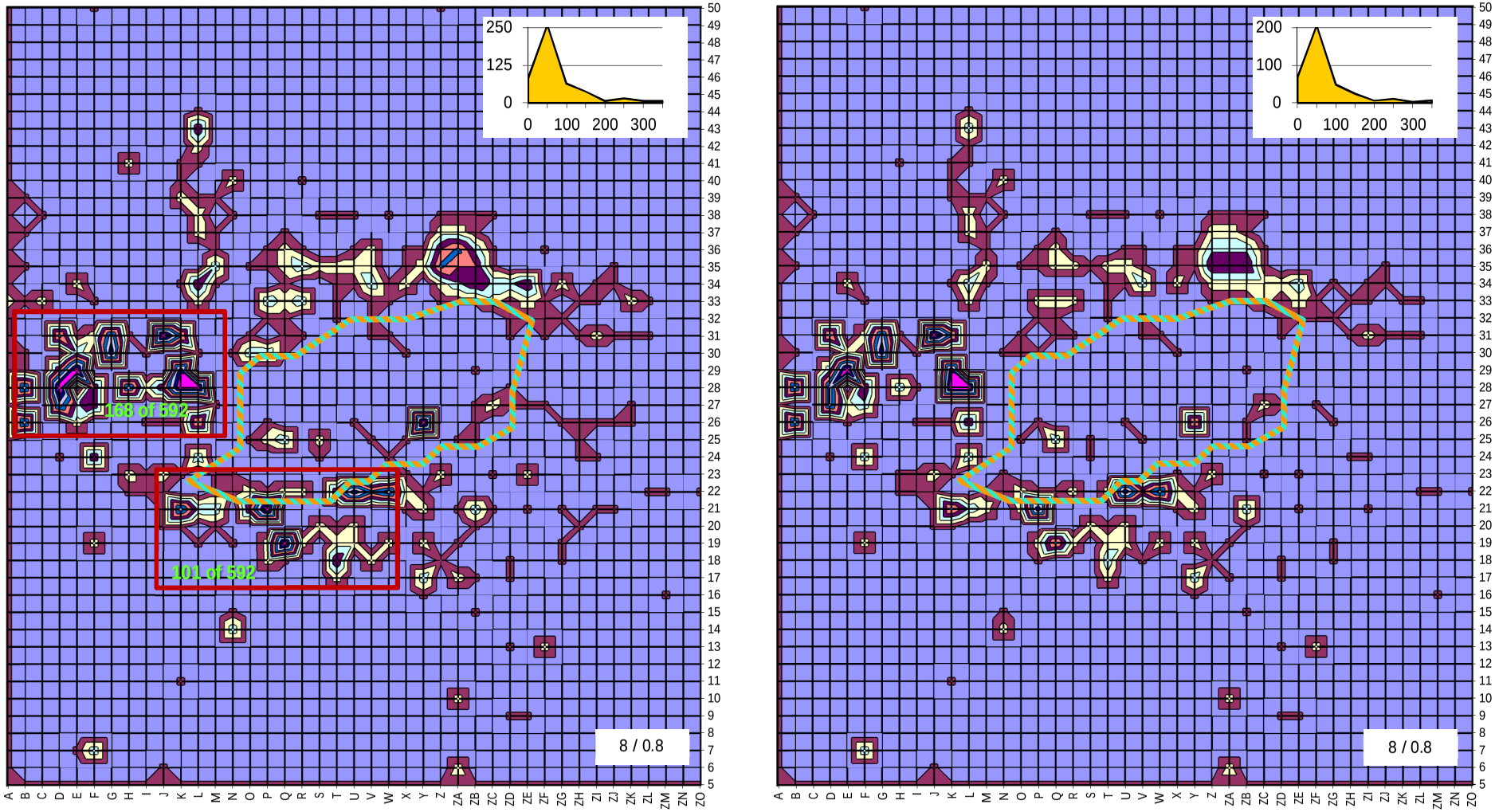
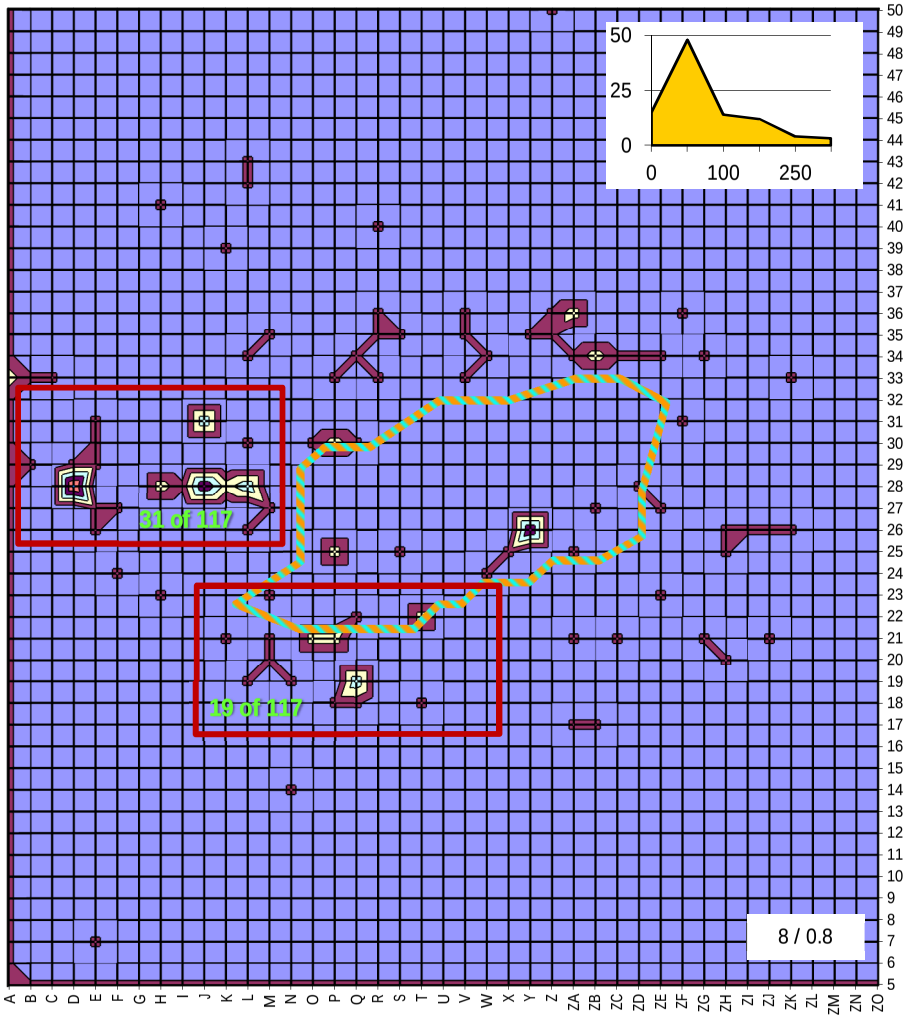
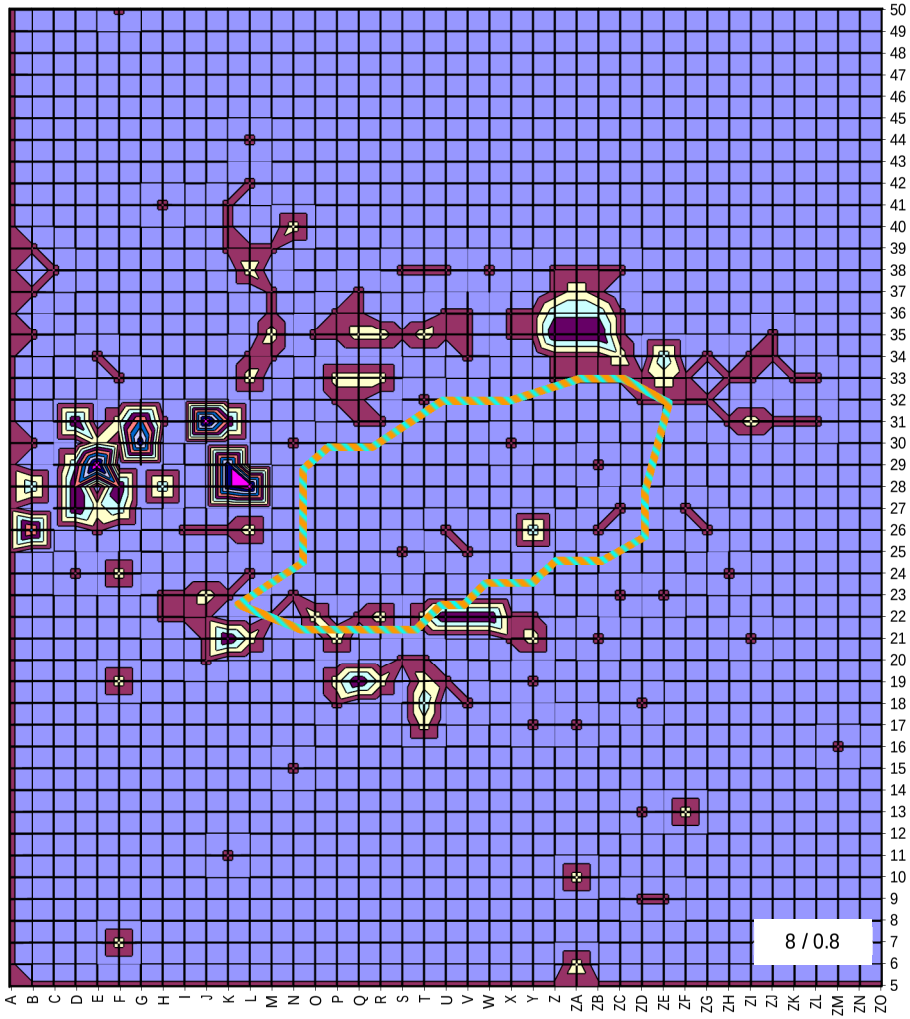


Fig.2.2-207: Distribution of all earthenware ‘jars’ (left); vessels with a bulbous profile (right). Cont. …





2.2-207, cont.: Distribution of teardrop shaped vessels (left); of vessels with measurements 18-20 cm diameter and height of 17-21 cm height (right).

Fig.2.2-208: Example photographs for <J18/loc> (left) and <KendiKitchen1/wh> (right).

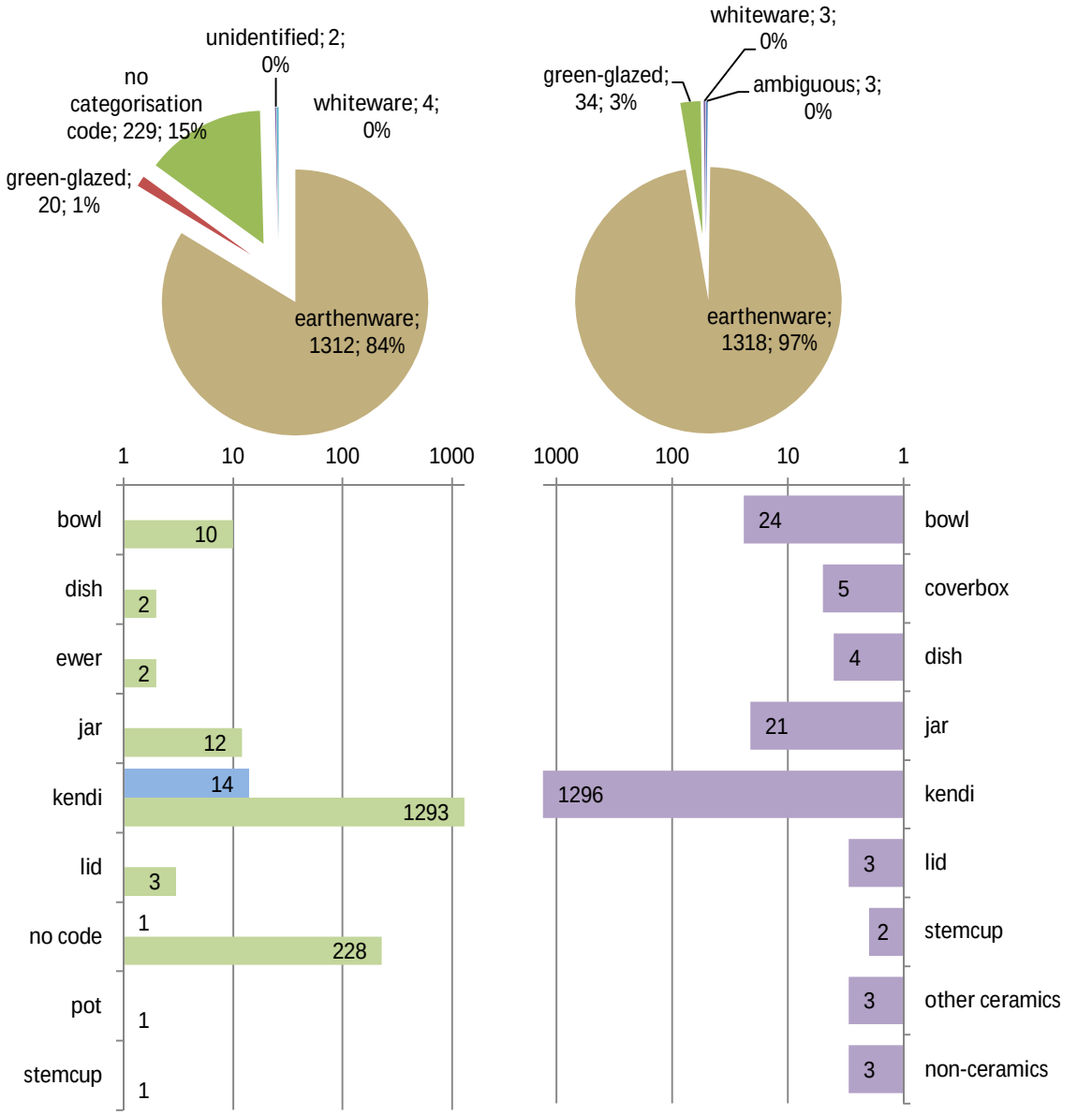


Fig.2.2-209: Ambiguities in available records. Above left, <wh> glaze types for all <loc> 'brown kendi' and <J18/loc>; below, general categorisations in <wh> data, logarithmic scale (<J18>, light blue). Above right, <loc> glaze types for all earthenware kendi in <wh> records; below, general categorisations.

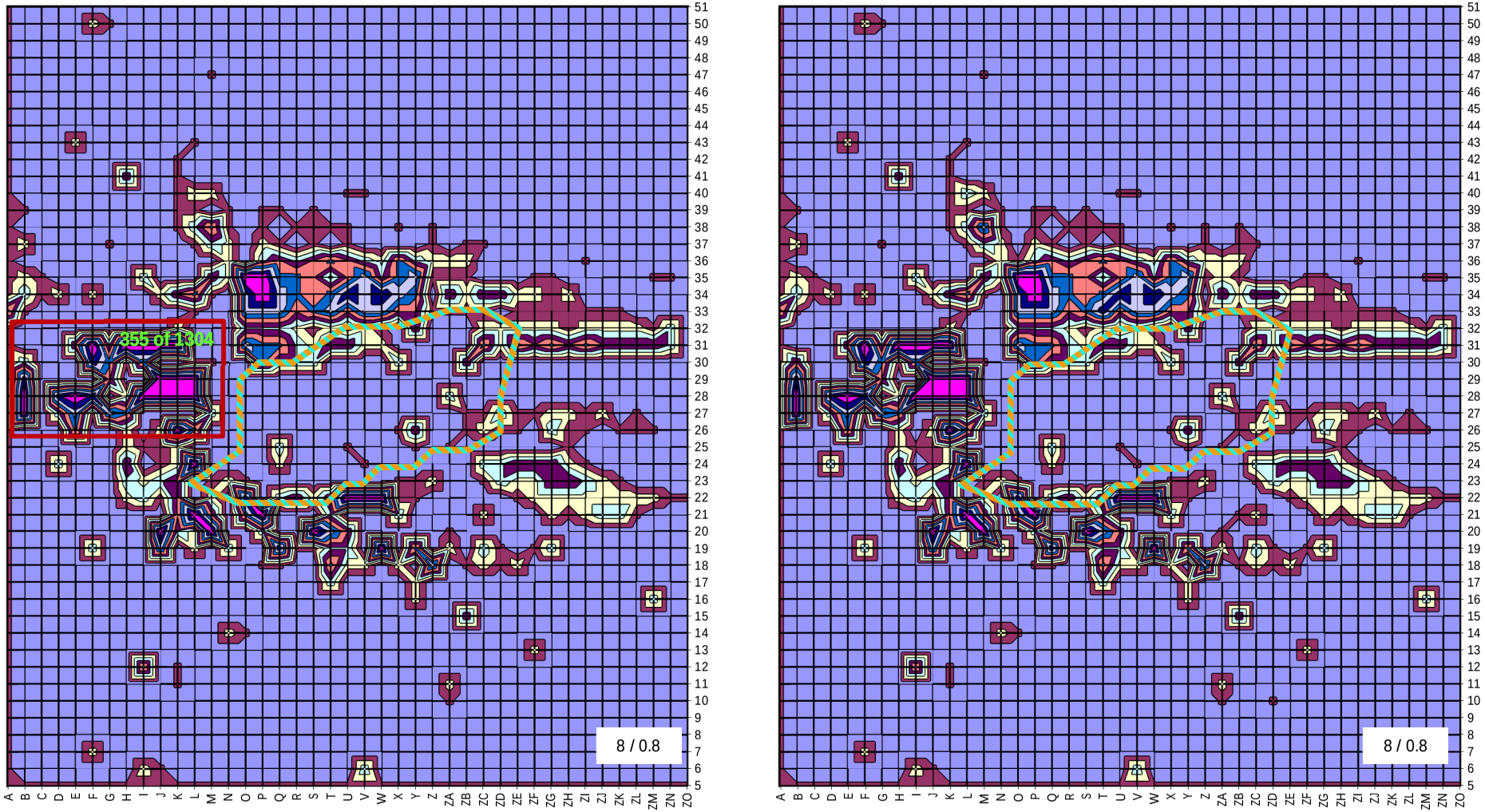


Fig.2.2-210: Distribution of all kendi in <wh> (left) and <loc> (right) data.

Fig.2.2-211: Variations of external colouring on, from top left to bottom right, <KE12/wh>, <KE27/wh>, <KE22b/wh>, <KE29/wh>, <KE36/wh> and <KE22d/wh>.

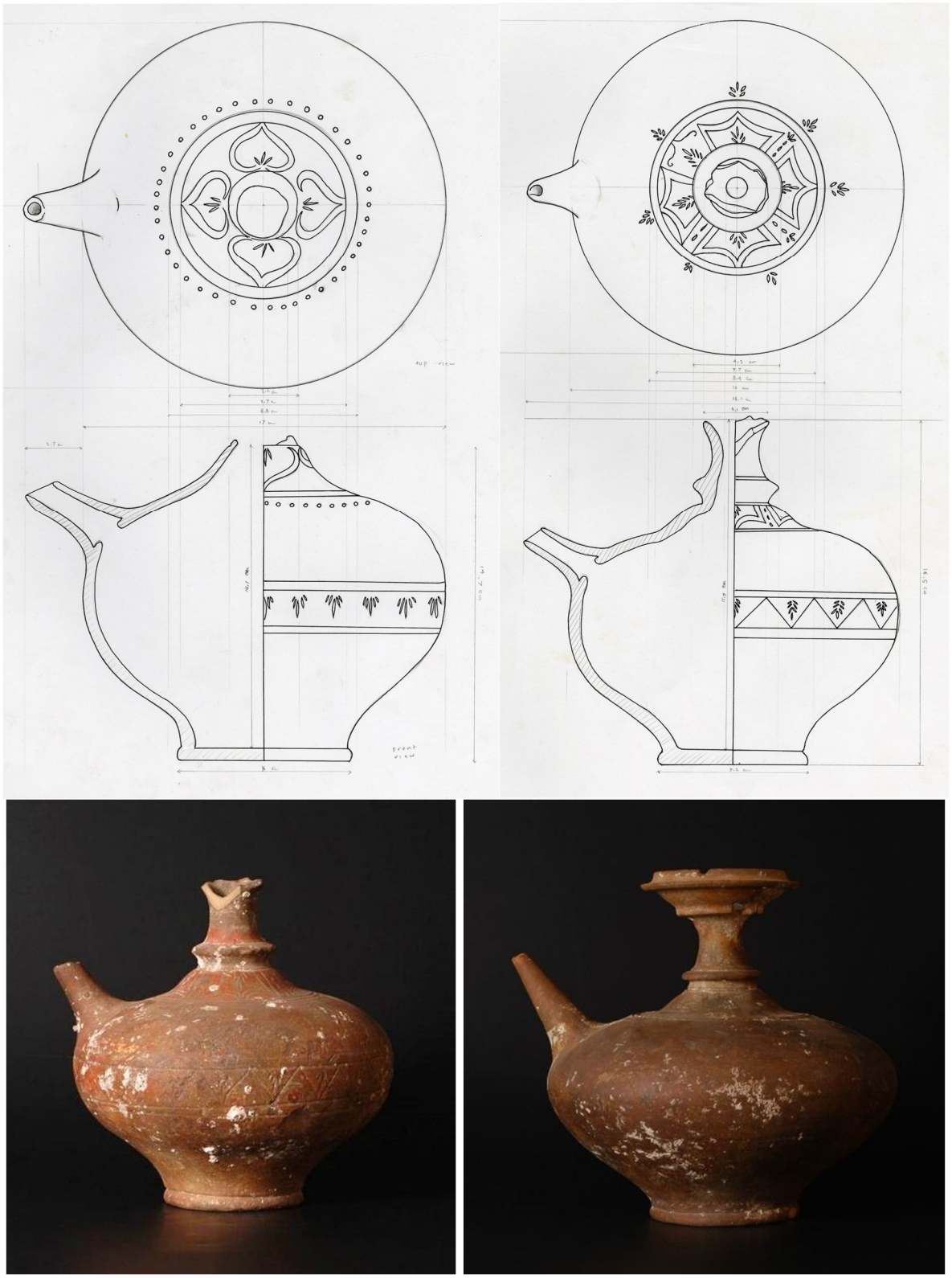


Fig.2.2-212: Above and below left, <ke24/wh>; below right, <ke3/wh>.

Fig.2.2-213: Above, <Ke28/wh> and<KendiKitchen1b/wh>; centre rows, <Ke7/wh> and <Ke8/wh>.; below, <Ke11/wh> and <Ke9/wh>

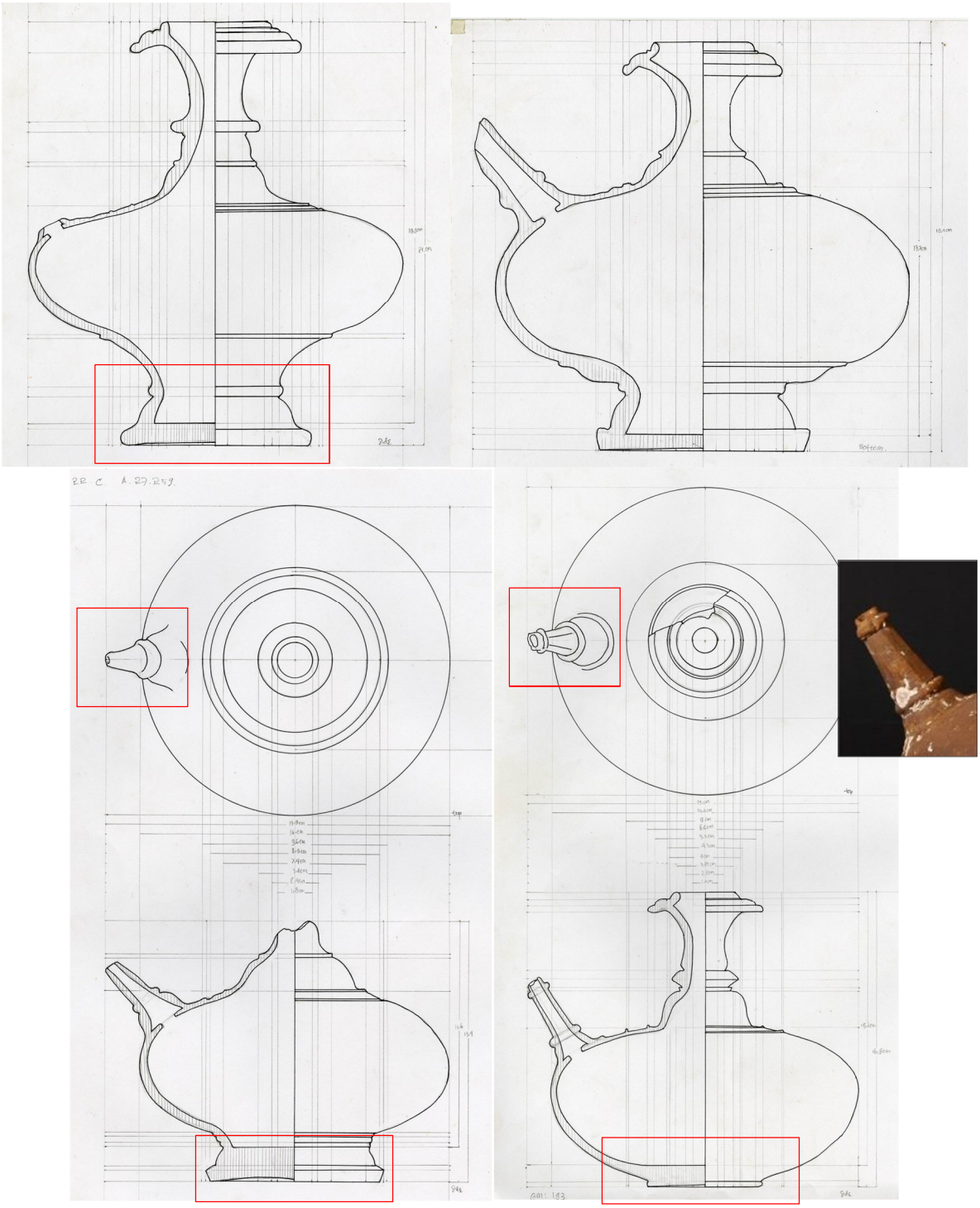


Fig.2.2-214: From above left to below, line drawings for <Ke22a-d/wh> and example photograph for <Ke20/wh>. Cf. Fig.2.2-211.

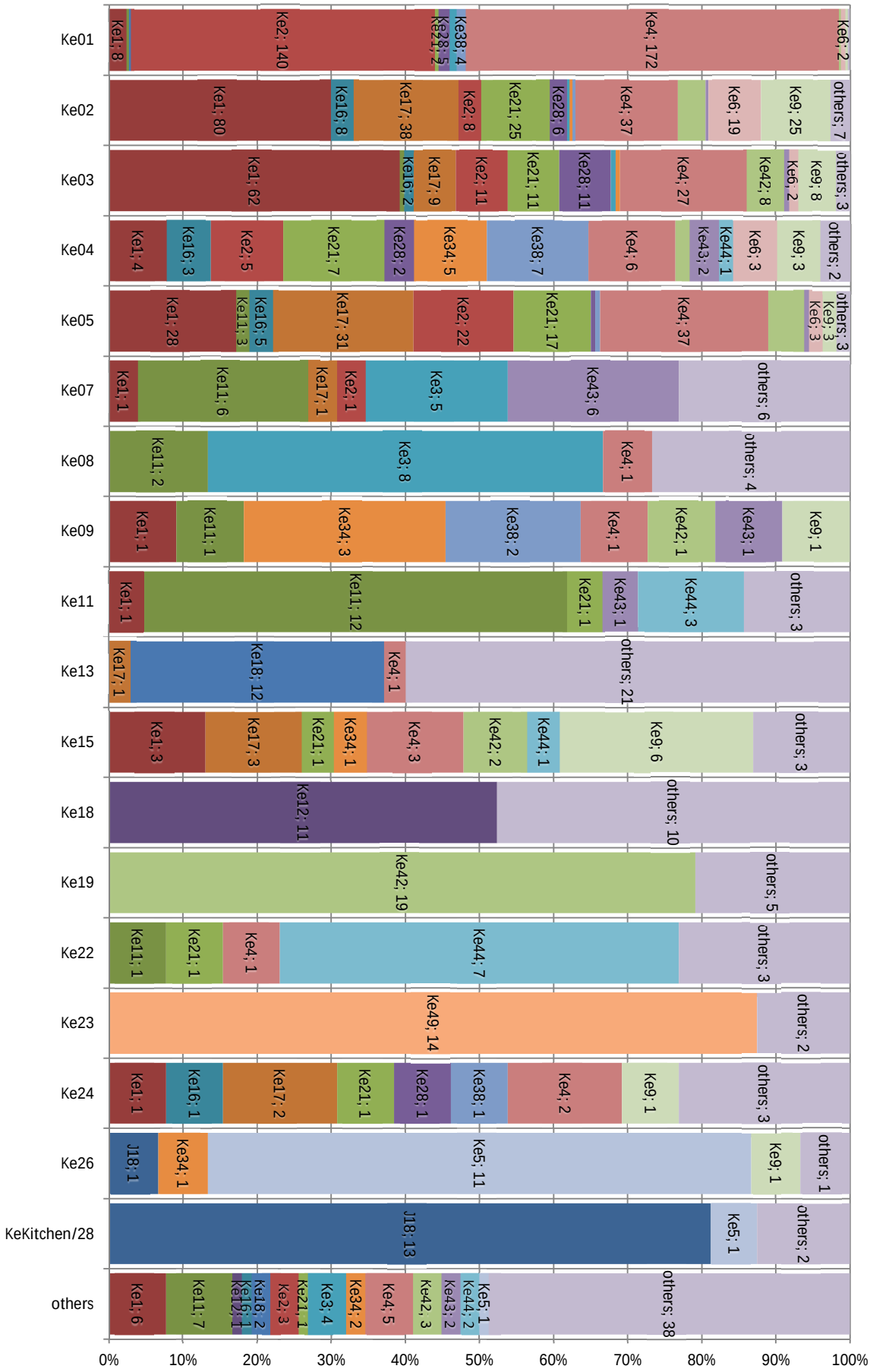


Fig.2.2-215: Breakdown of <wh> classifications of earthenware kendis into <loc> codes; waregroups with less than 10 entries summed under “others”.

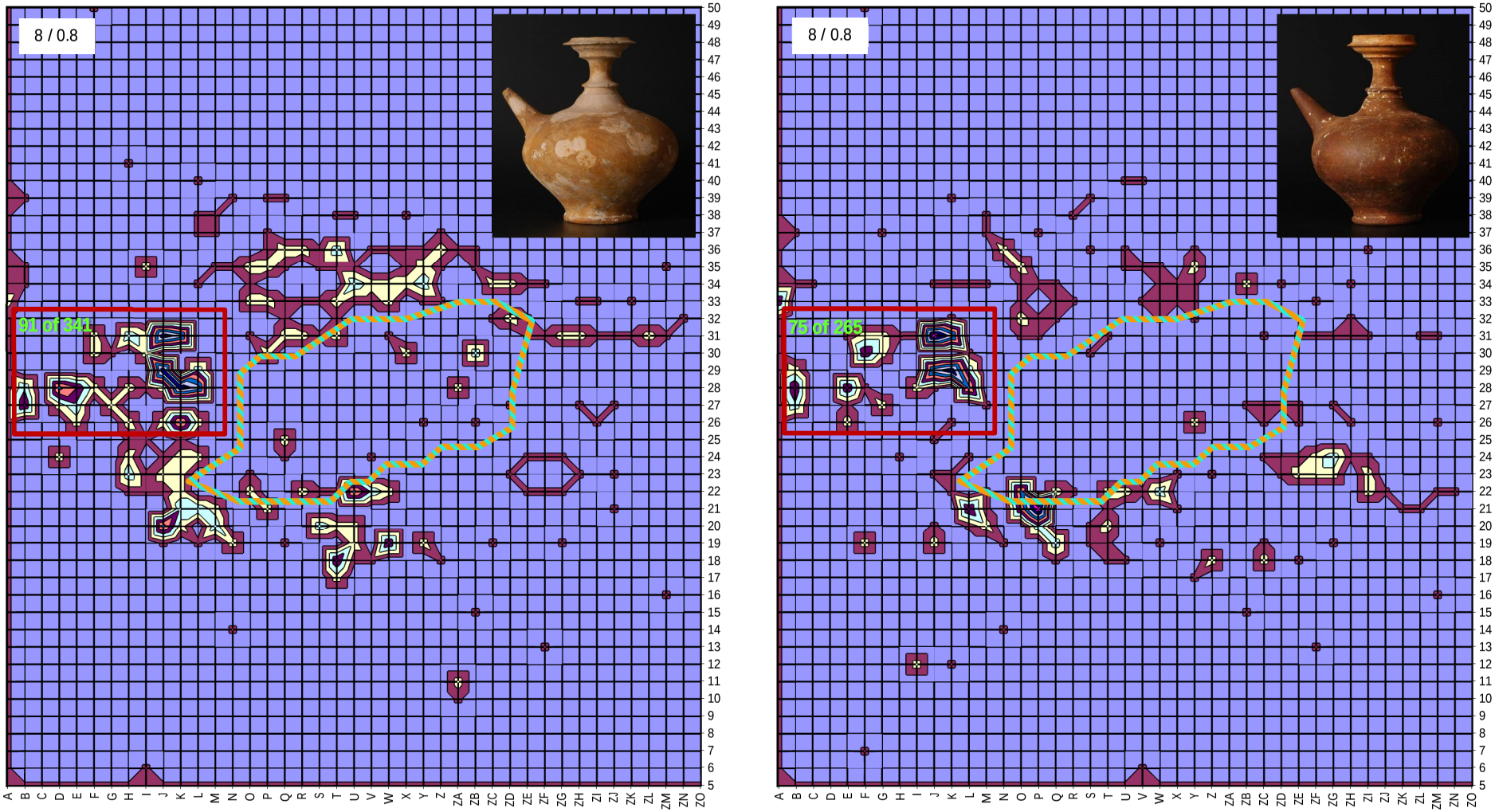


Fig.2.2-216: Uncorrected distribution of <Ke1*/wh> (left) and <Ke2*/wh> (left); cont. …

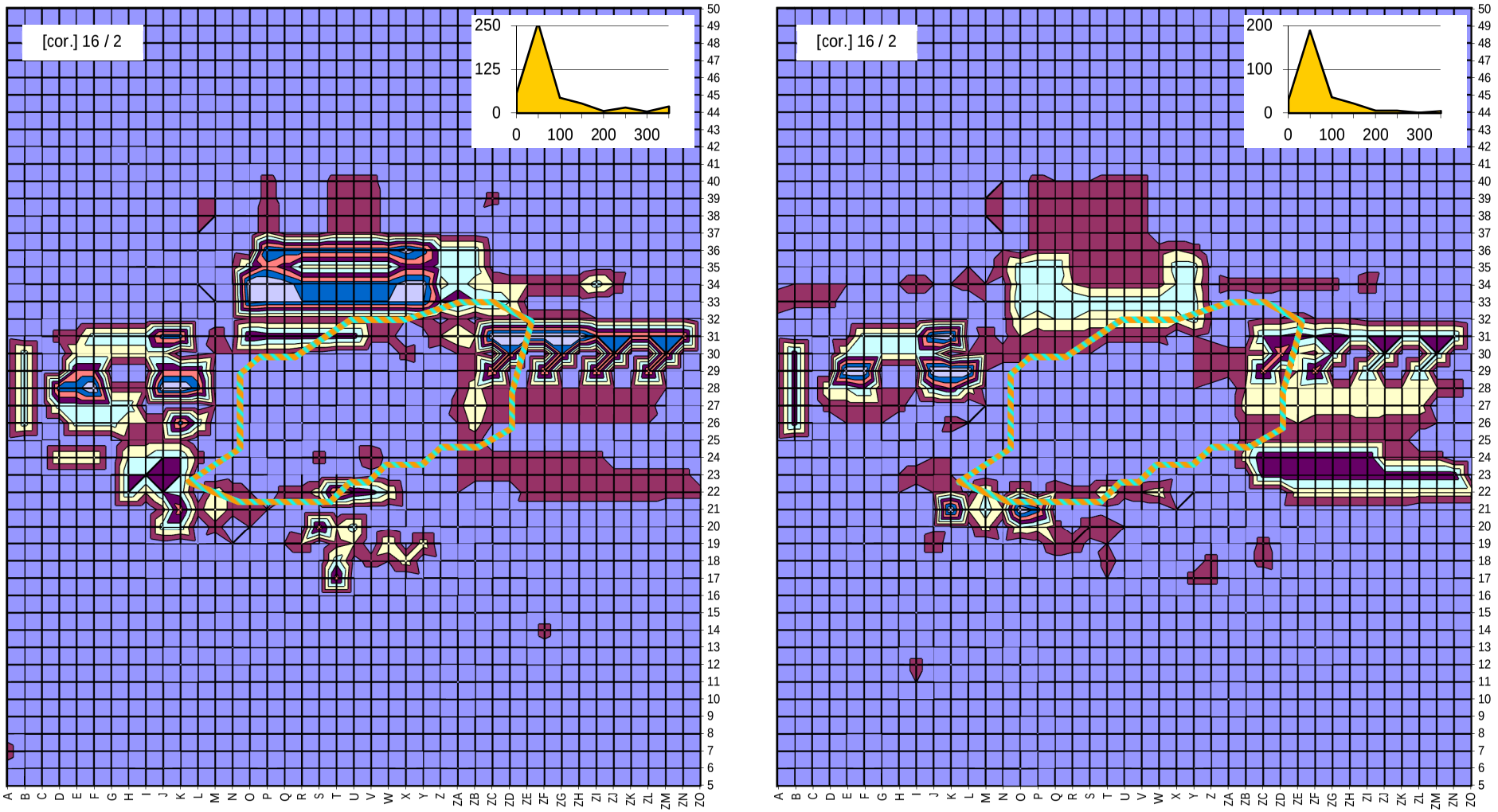


Fig.2.2-216: Corrected distribution of <Ke1*/wh> (left) and <Ke2*/wh> (left); cont. …

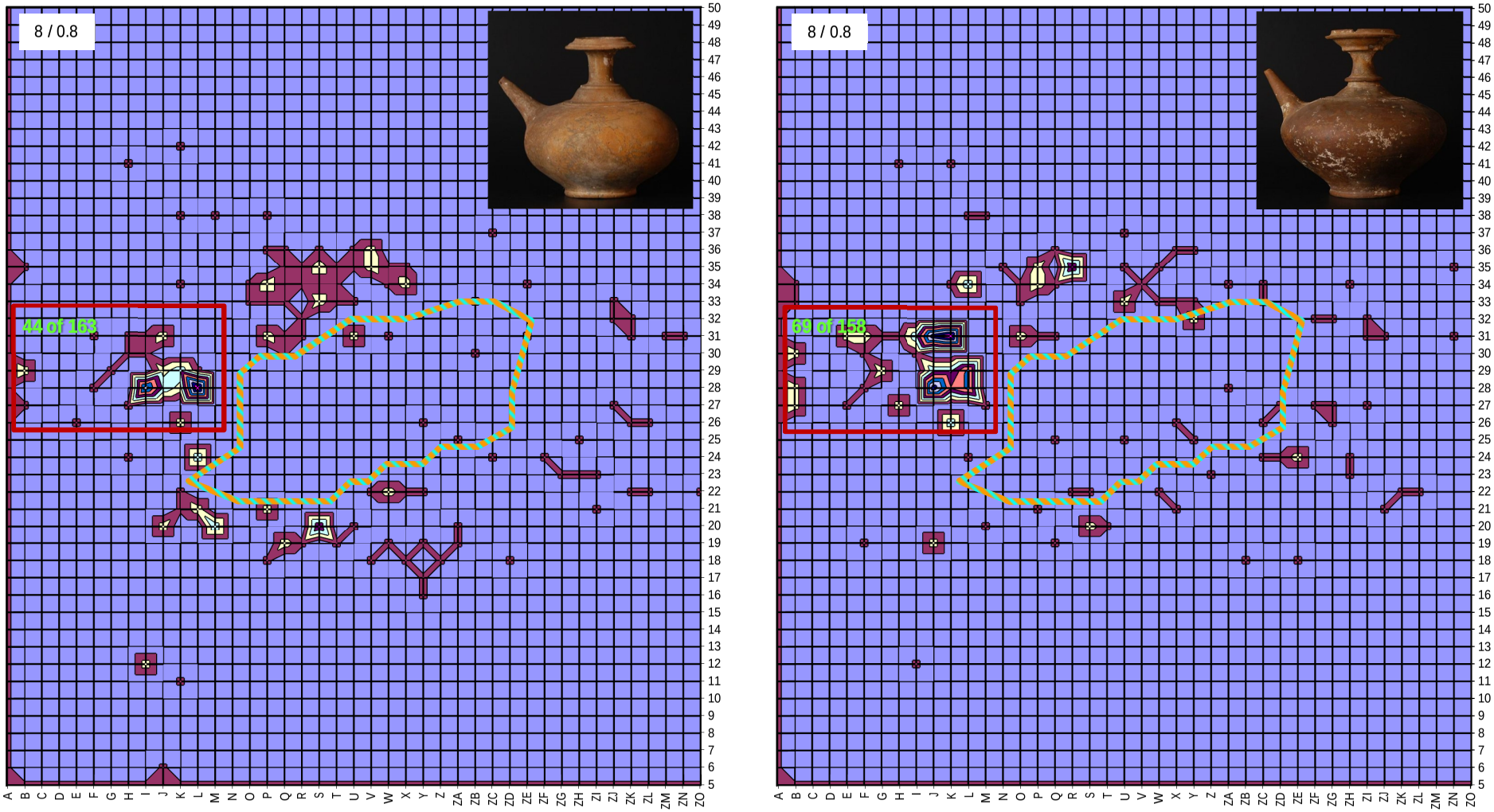


Fig.2.2-216: Uncorrected distribution of <Ke5*/wh> (left) and <Ke3*/wh> (left); cont. …

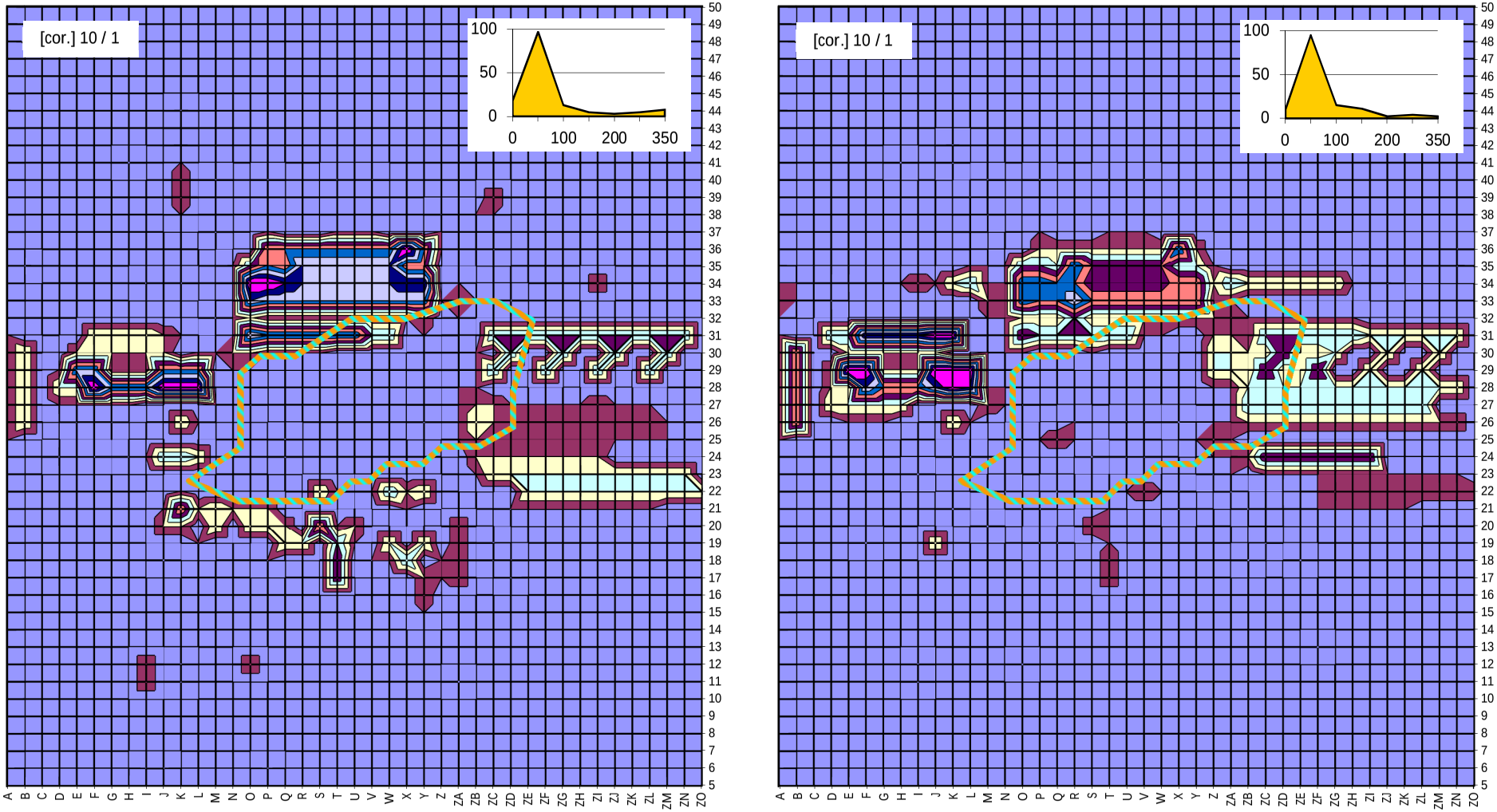


Fig.2.2-216: Corrected distribution of <Ke5*/wh> (left) and <Ke3*/wh> (left). cont. …

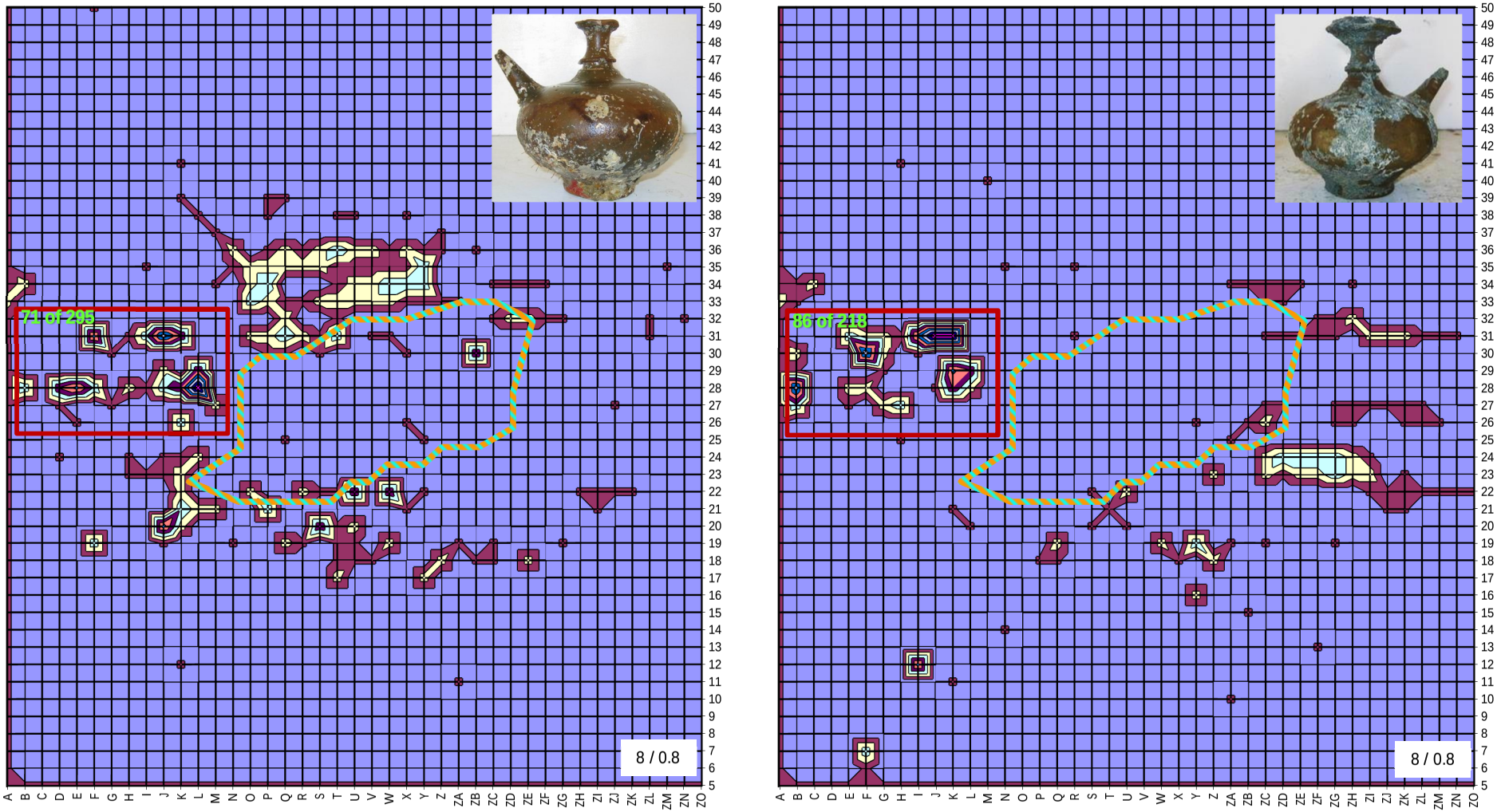


Fig.2.2-216: Uncorrected distribution of <Ke4*/loc> (left) and <Ke1*/loc> (left); cont. …

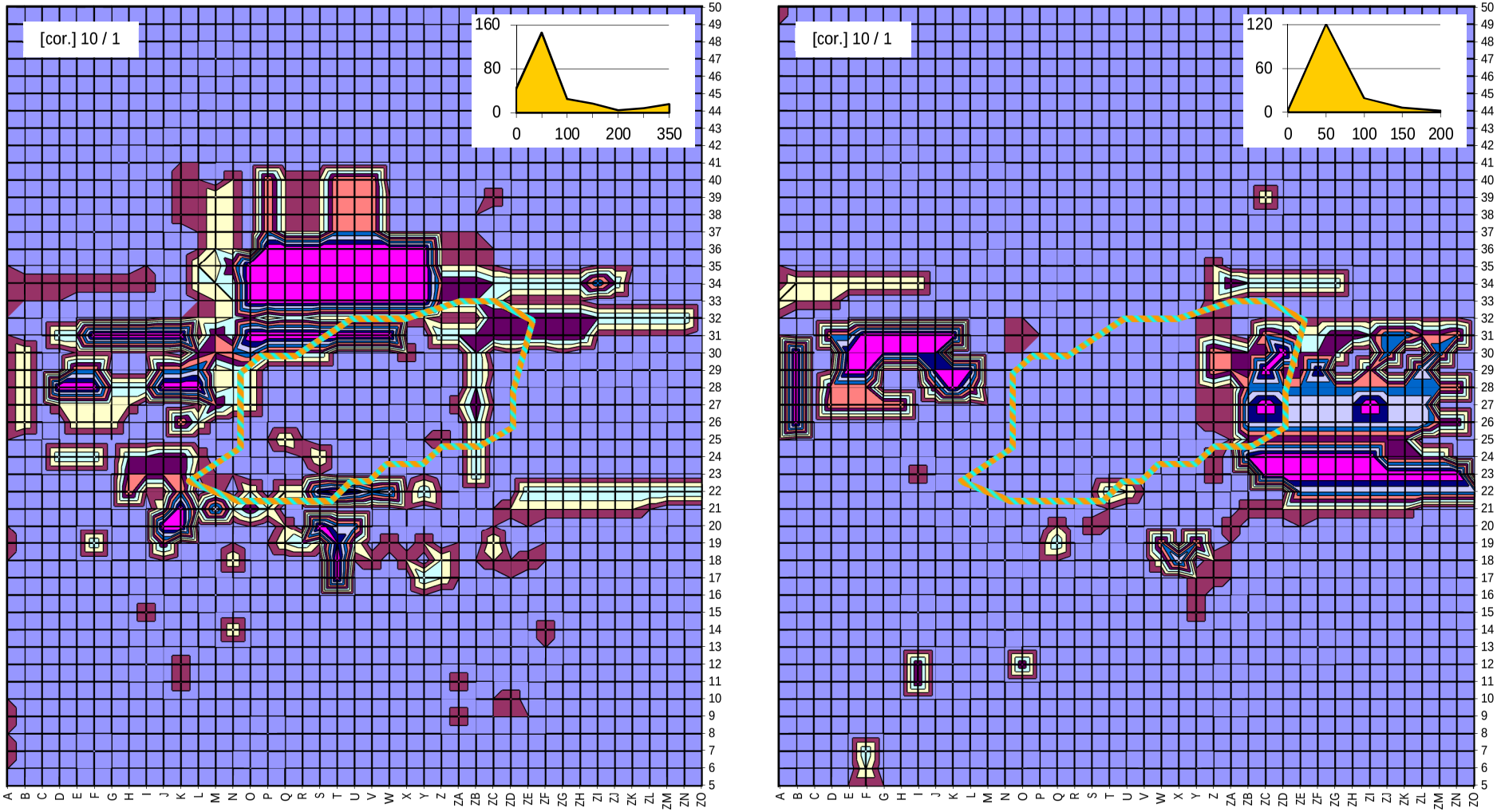


Fig.2.2-216, cont.: Corrected distribution of <Ke4*/Ioc> (left) and <Ke1*/Ioc> (left).

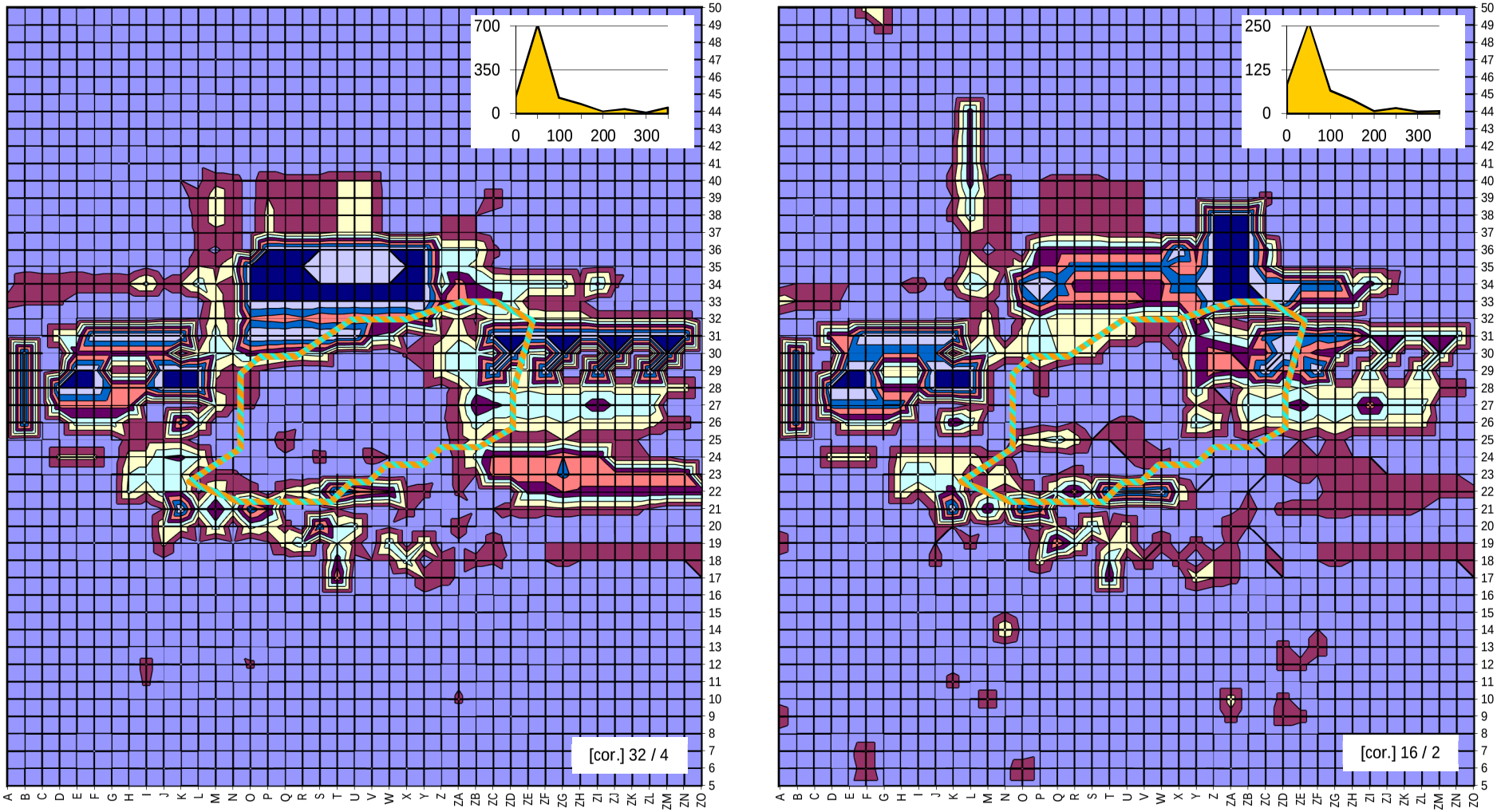


Fig.2.2-217: Distribution patterns for all earthenware kendi (left) and jars (right).

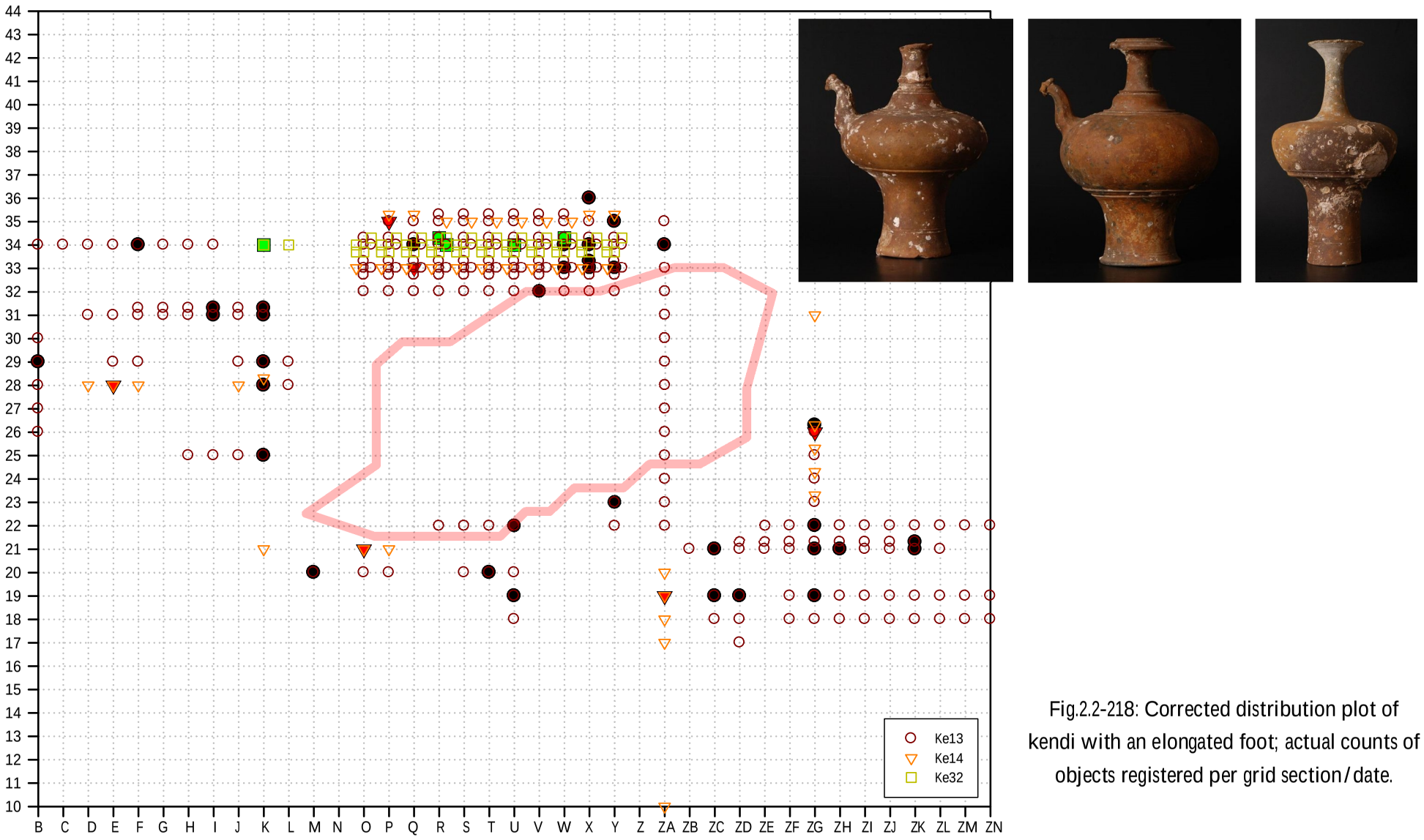


Fig.2.2-218: Corrected distribution plot of kendi with an elongated foot; actual counts of objects registered per grid section/date.

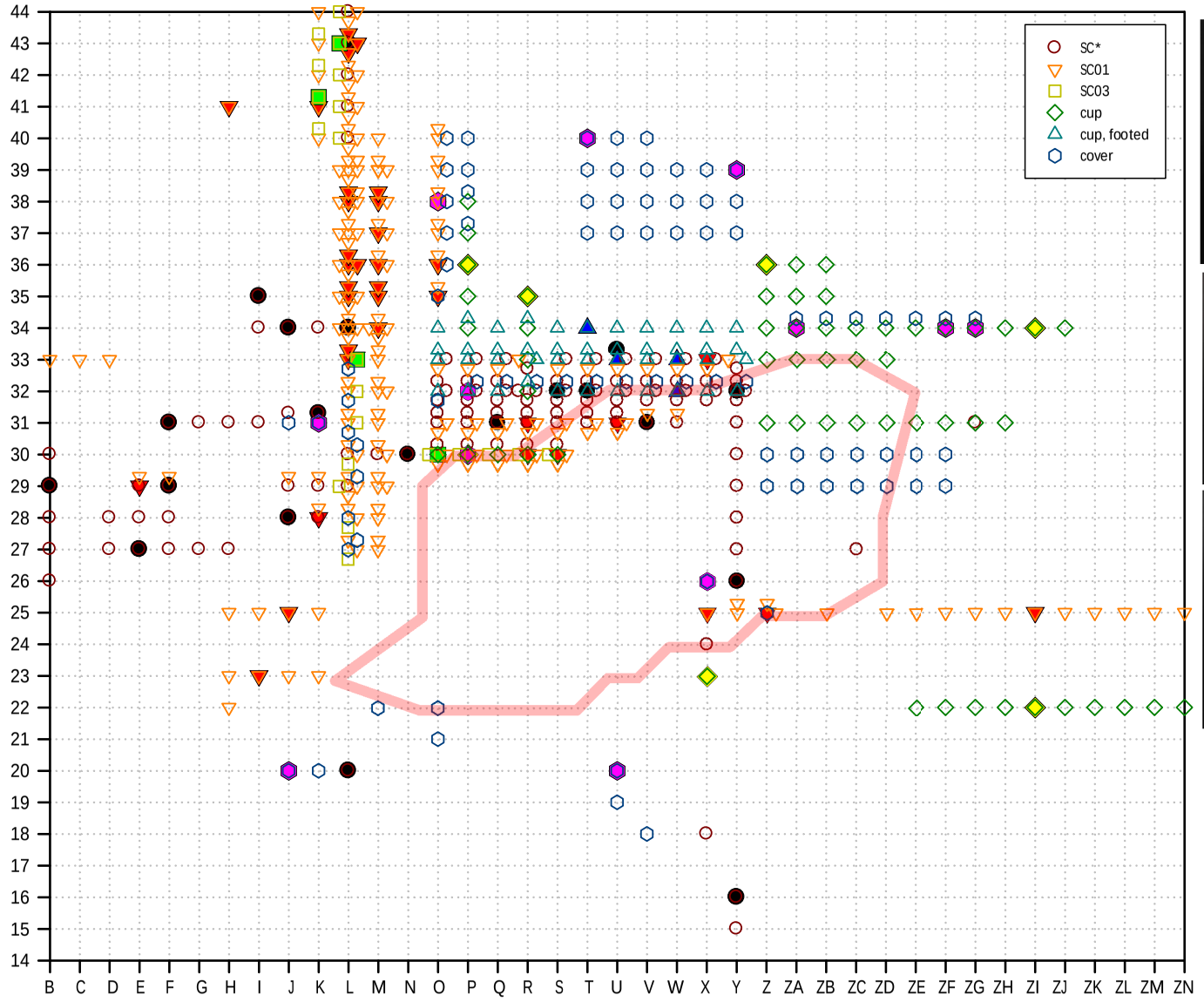


Fig.2.2-219: Corrected distribution plot of earthenware stemcups, cups and covers; actual counts of objects registered per grid section/date; original entries filled, corrected ones outlined.

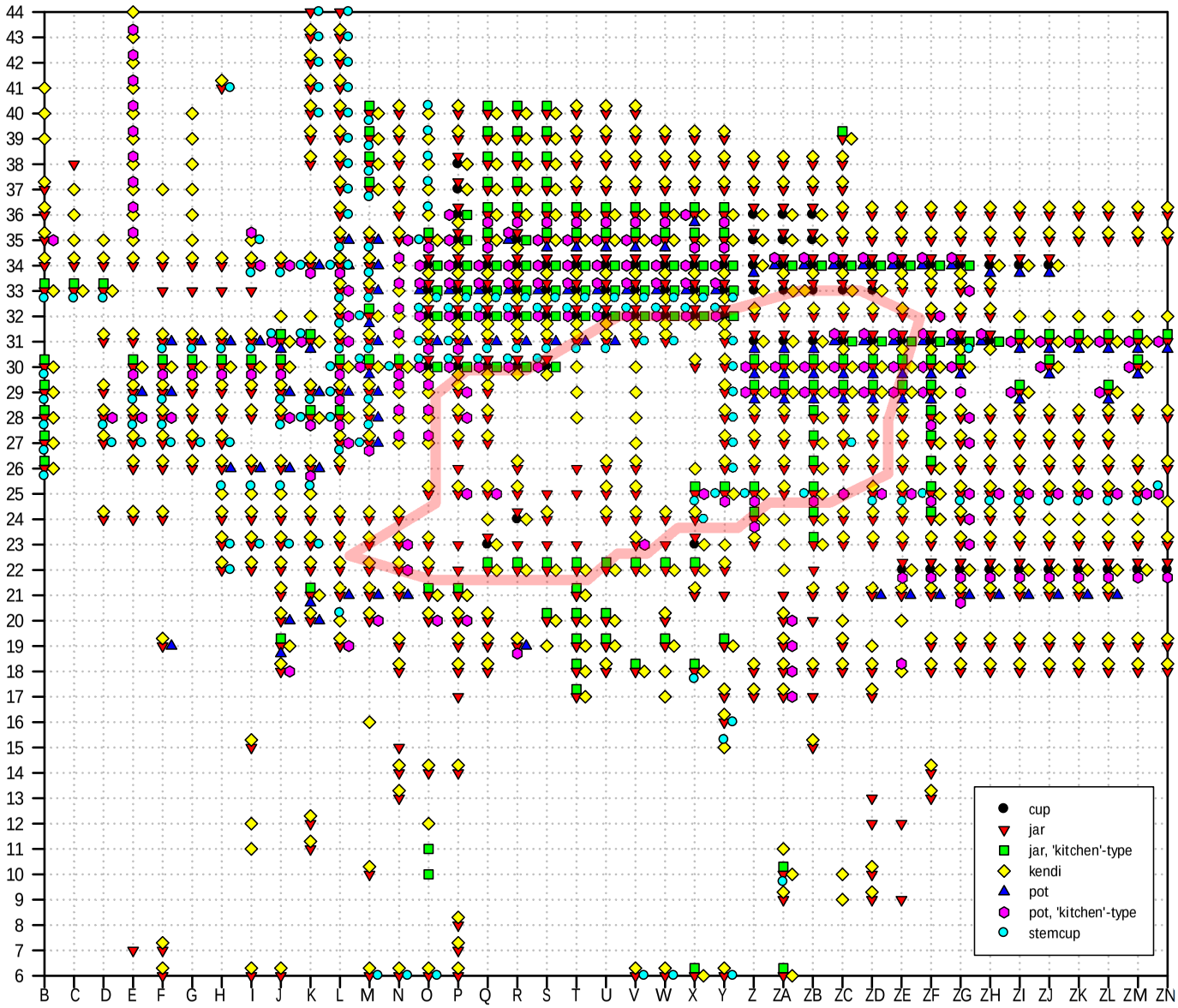


Fig.2.2-220: Corrected distribution plot of main categories of earthenwares.

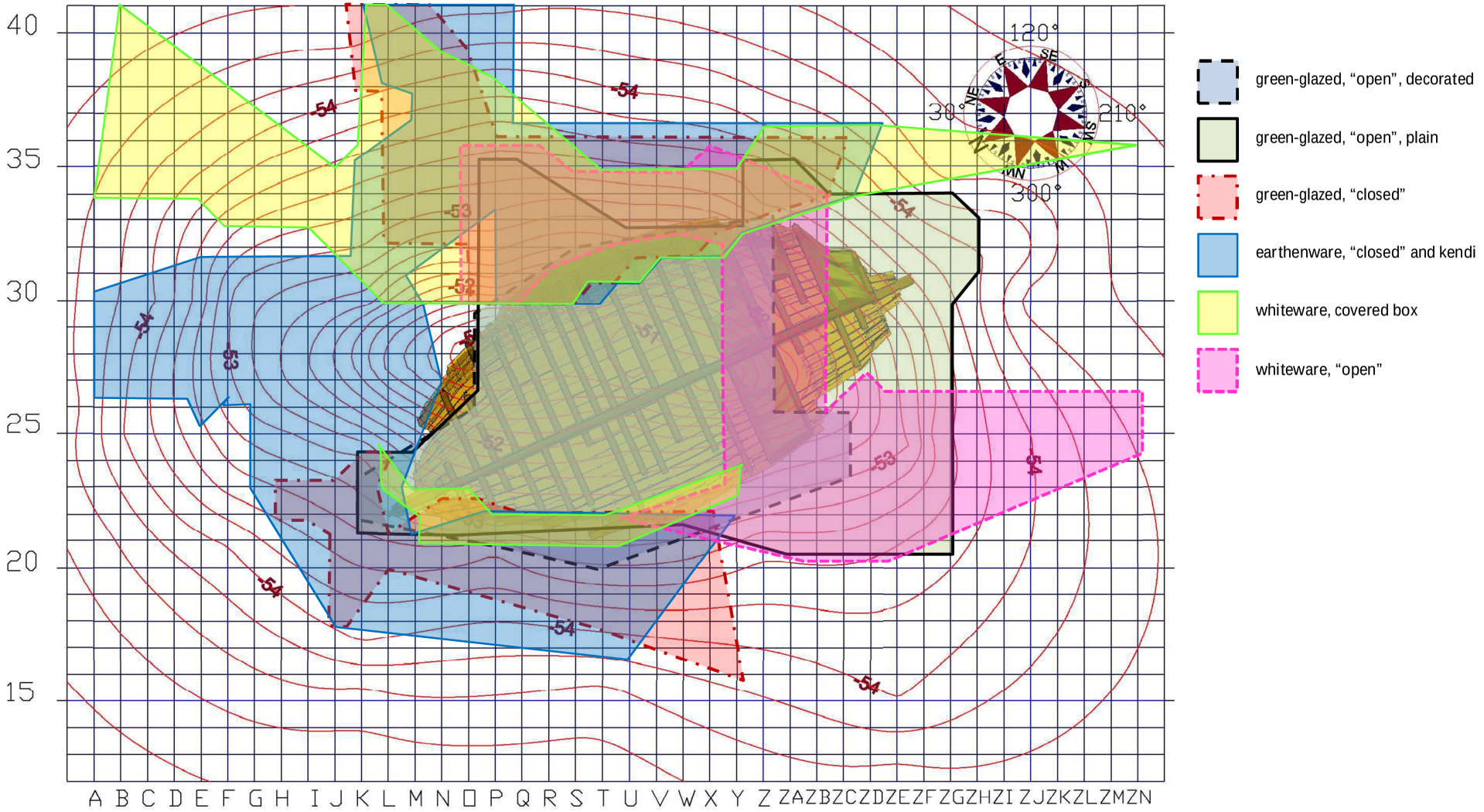


Fig.2.2.-221: Distribution patterns of selected types of vessels in the ceramic cargo.

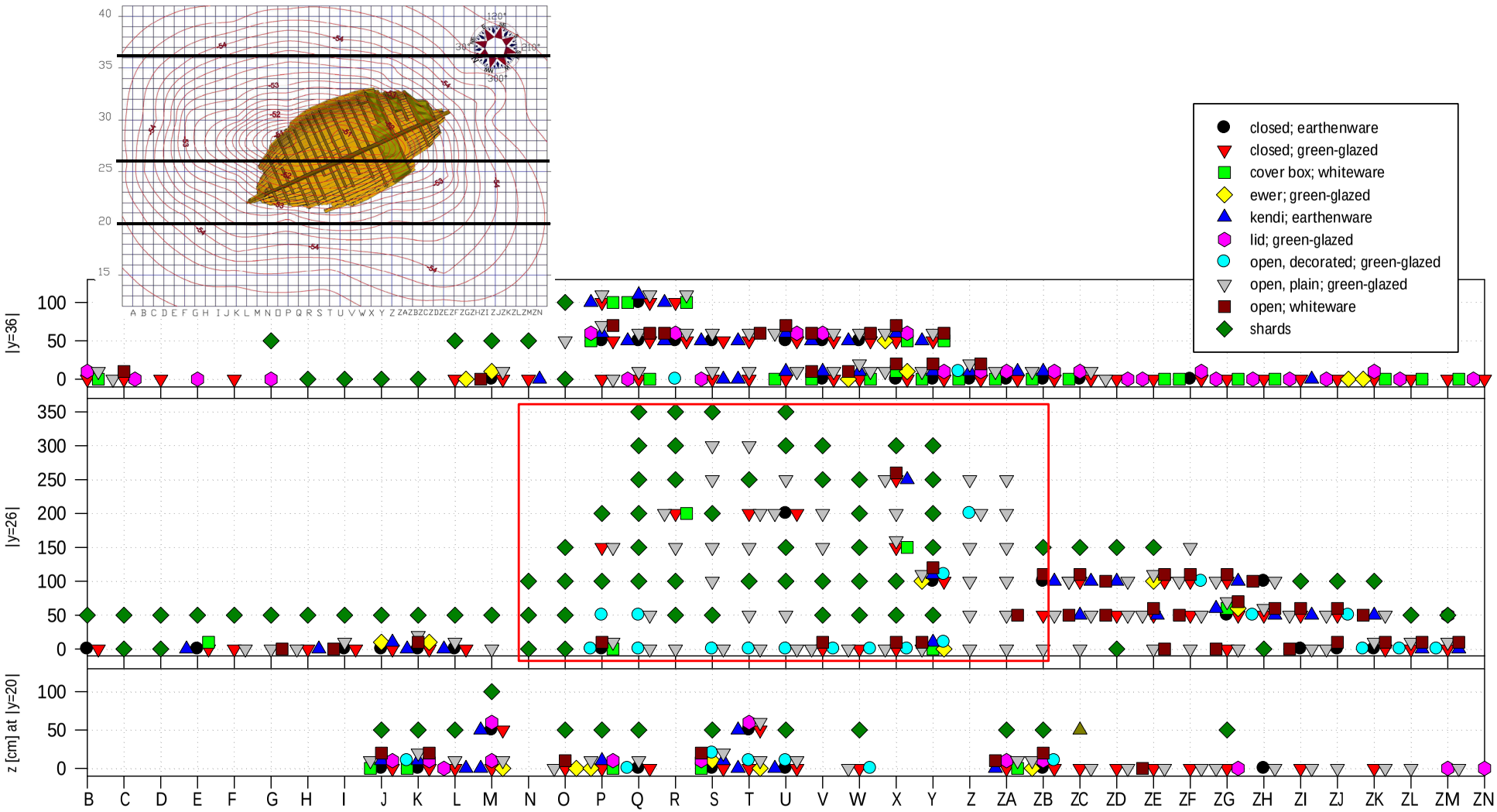


Fig.2.2-222: Vertical distribution of major types of tradeware ceramics at three “virtual sections” through the tumulus. Red square marks approximate position of wreck.

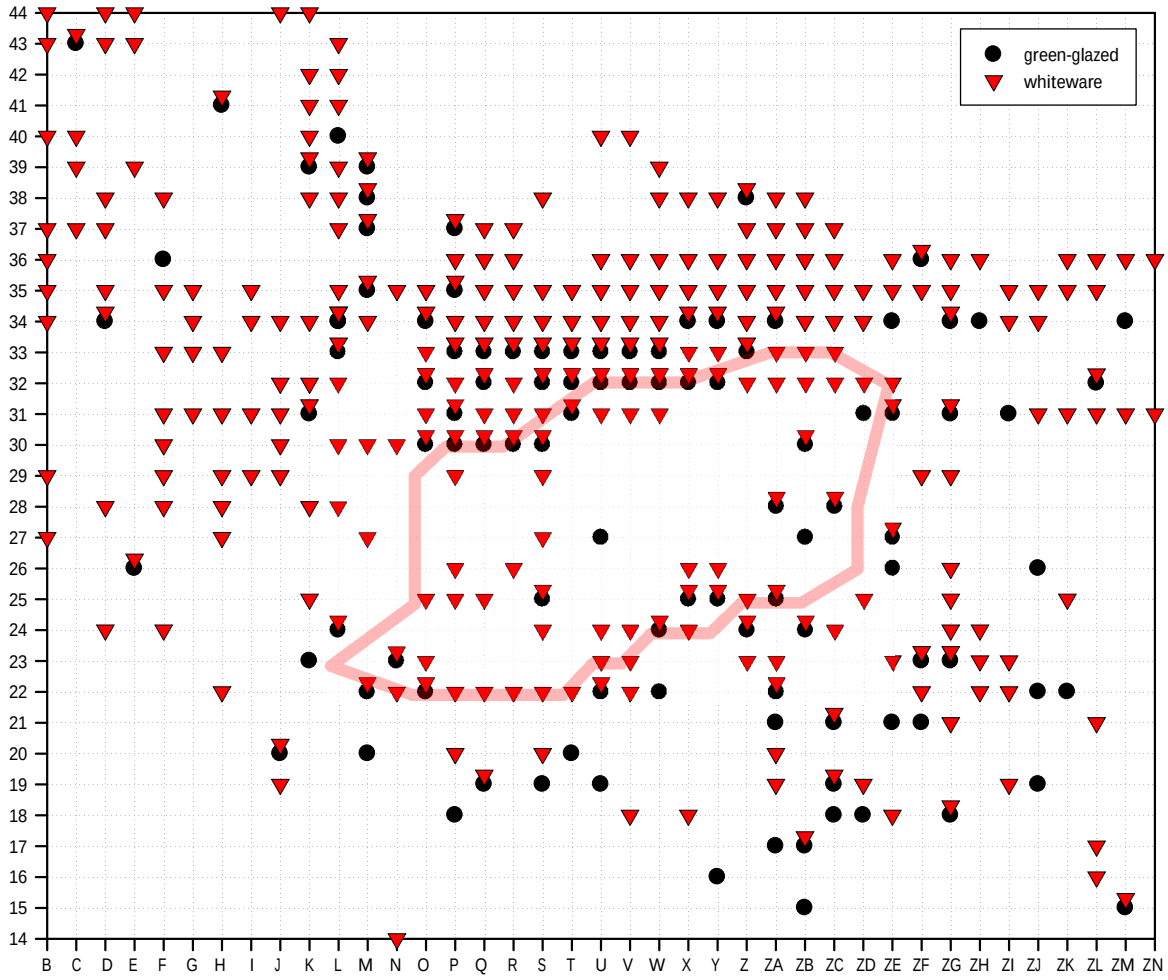


Fig.2.2-223: Distribution of green- and white-glazed covered boxes.

2.3 Non-Ceramic Objects

Photo courtesy Jean Paul Blancan and Luc Heymans

Fig.2.3-1: Chest-handles and -fittings. The untagged objects below were registered as Arts.7974 (left, above), 6536 (two items, left, below) and B/A55 (right).

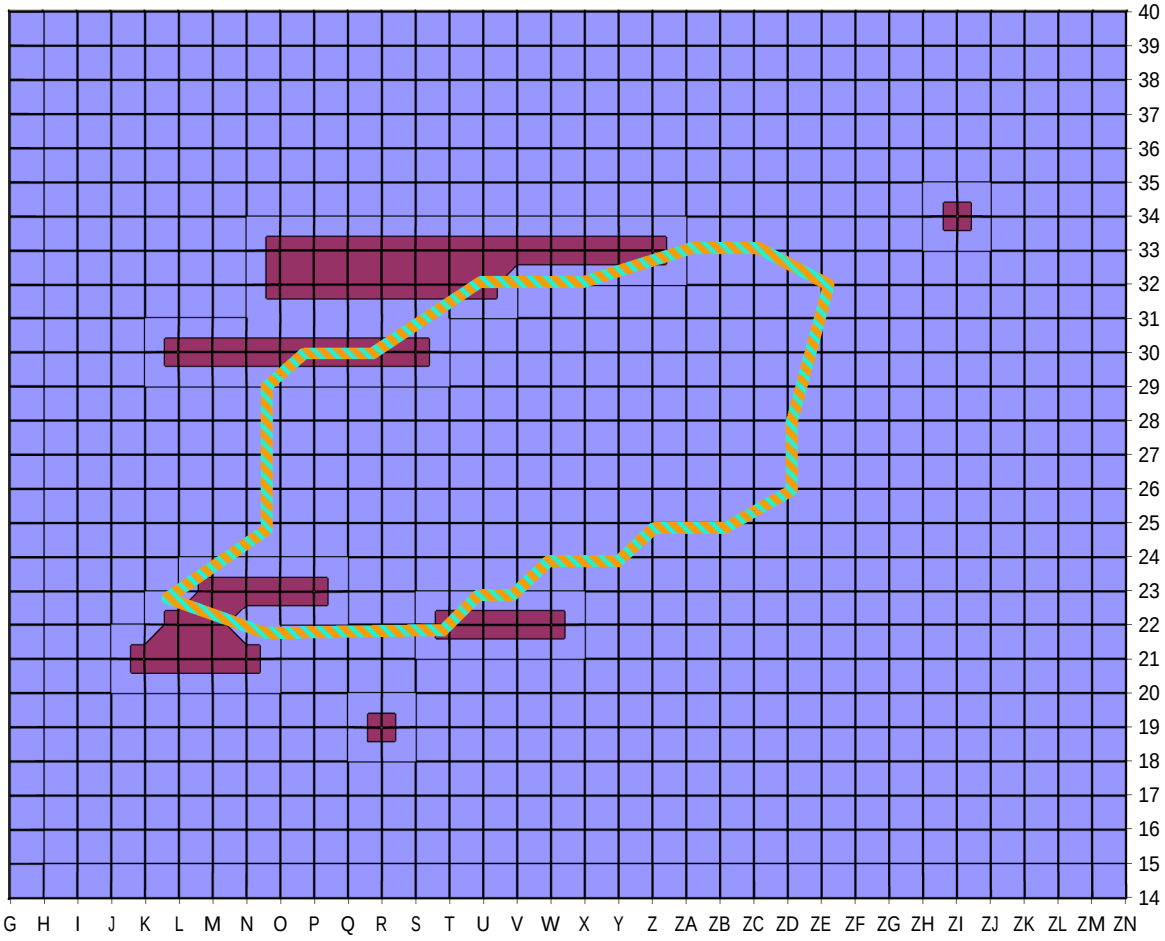


Fig.2.3-2: Distribution of chest-fittings.

Fig.2.3-3: Scrap-box Art.10383.

Fig.2.3-4: Examples of glass vessels and fragments. Unnumbered objects, third line, Art.29408; necks, fourth line, from left to right, Arts.1226, 1698, 1813, 2055; fourth line, necks, Arts.WH72, 118, handles, Arts.WH16, WH19-20; fifth line, bottoms, Arts.WH27, WH29, WH41, WH47. Scale in cm.

Fig.2.3-5: Examples of perfume flasks; from left to right, Arts.7038, 26113, 135898 and 150419.

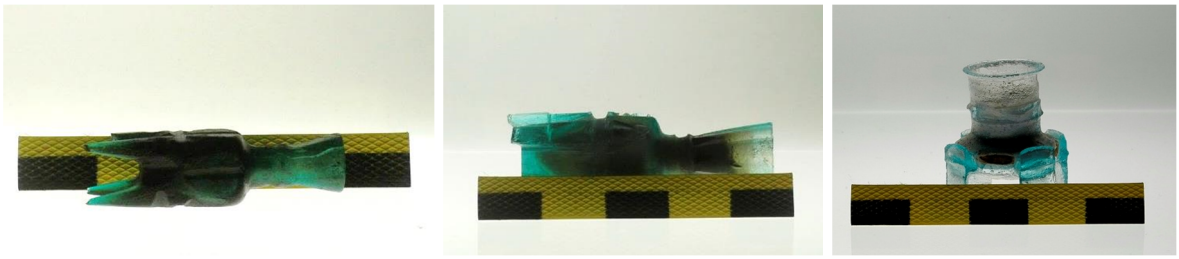


Fig.2.3-6: Molar flasks, Arts.8349, 28820, 151407.

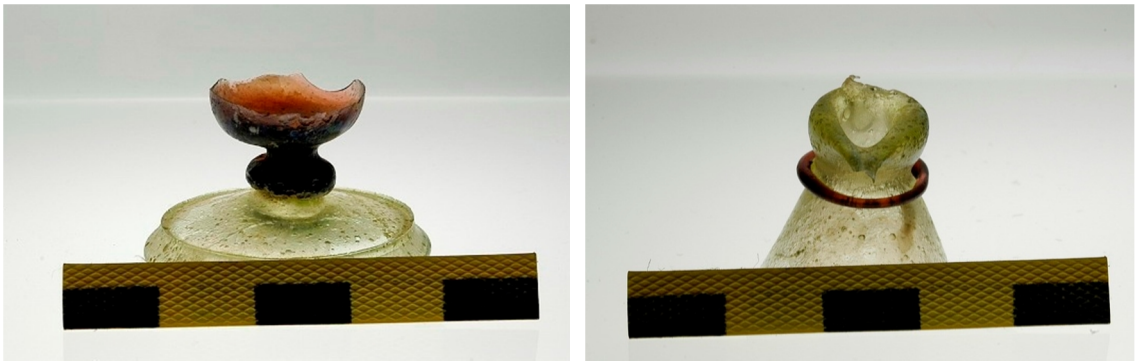


Fig.2.3-7: Fragments with two combined colours. Left, Art.7270; right, WH123.

Fig.2.3-8: S324, three bases of bottles, concurrently found on 050919, |O34:Y34|.

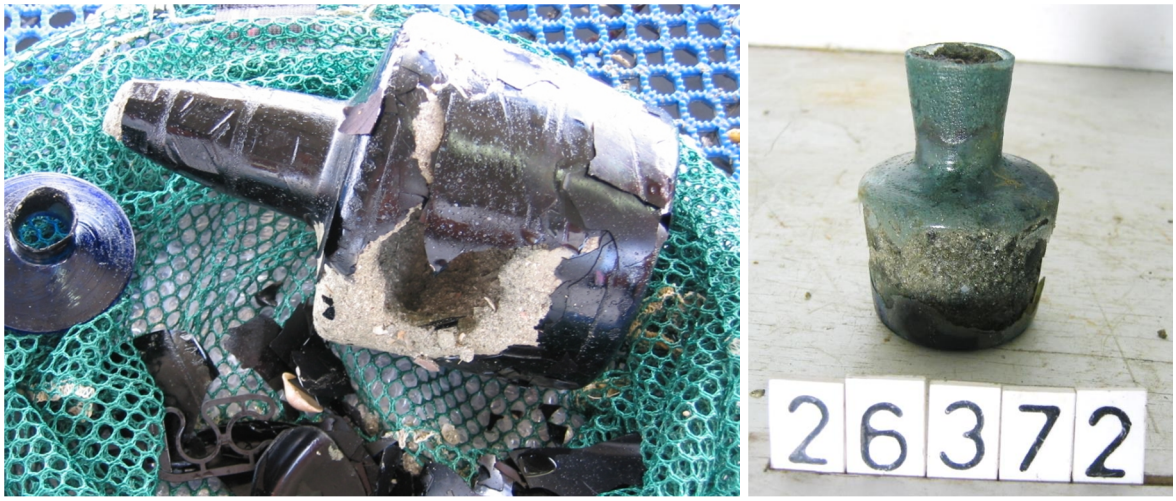


Fig.2.3-9: Shattered glass vessels preserved by concretions of their content; unnumbered, Art.3386.

Fig.2.3-10: Concreted contents of glass vessels retaining form of the vessel; sample database.

Fig.2.3-11: Residue in neck of a bottle.

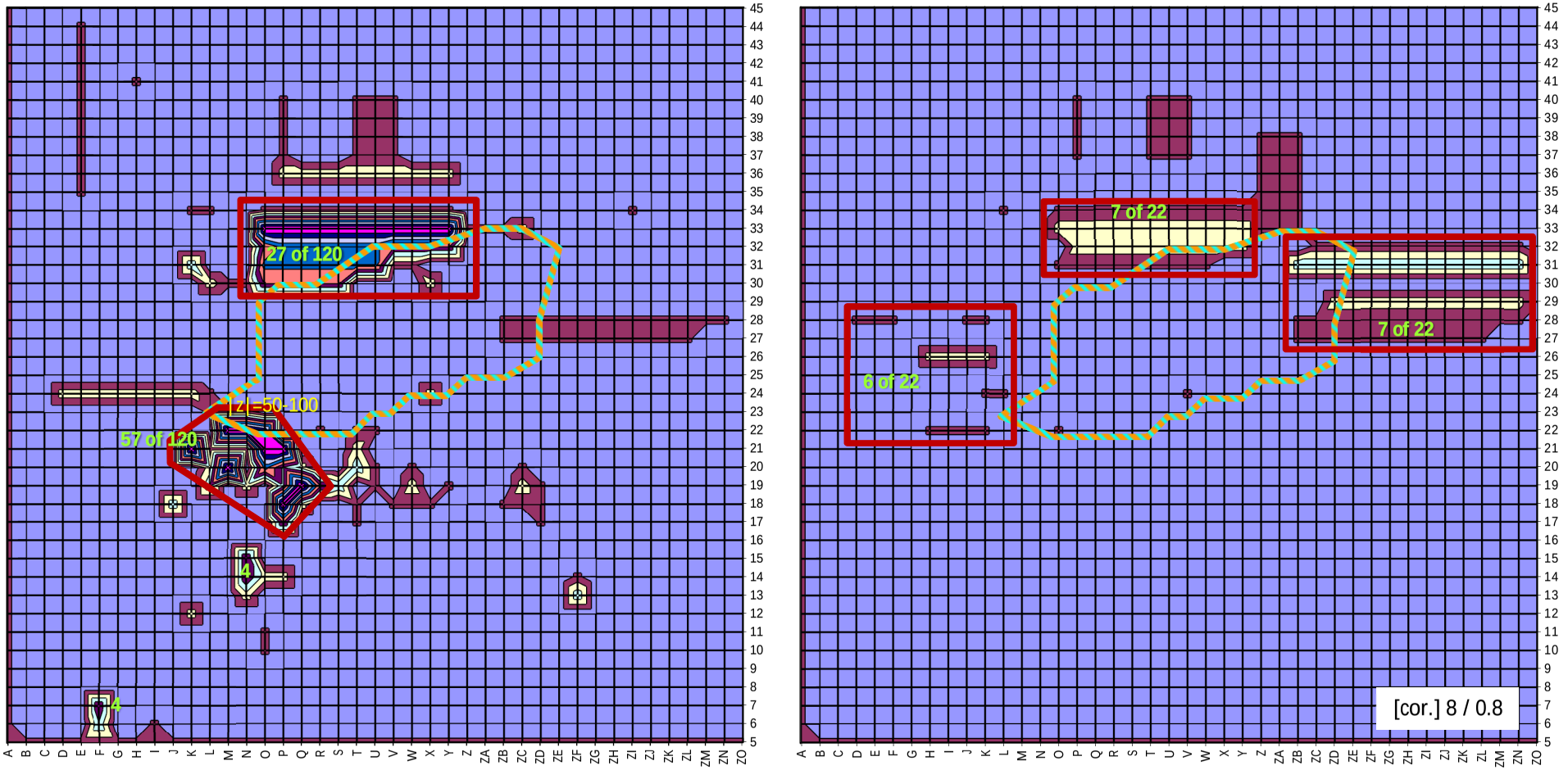


Fig.2.3-12: Distribution of larger glass vessels and fragments (left) and perfume flasks (right).

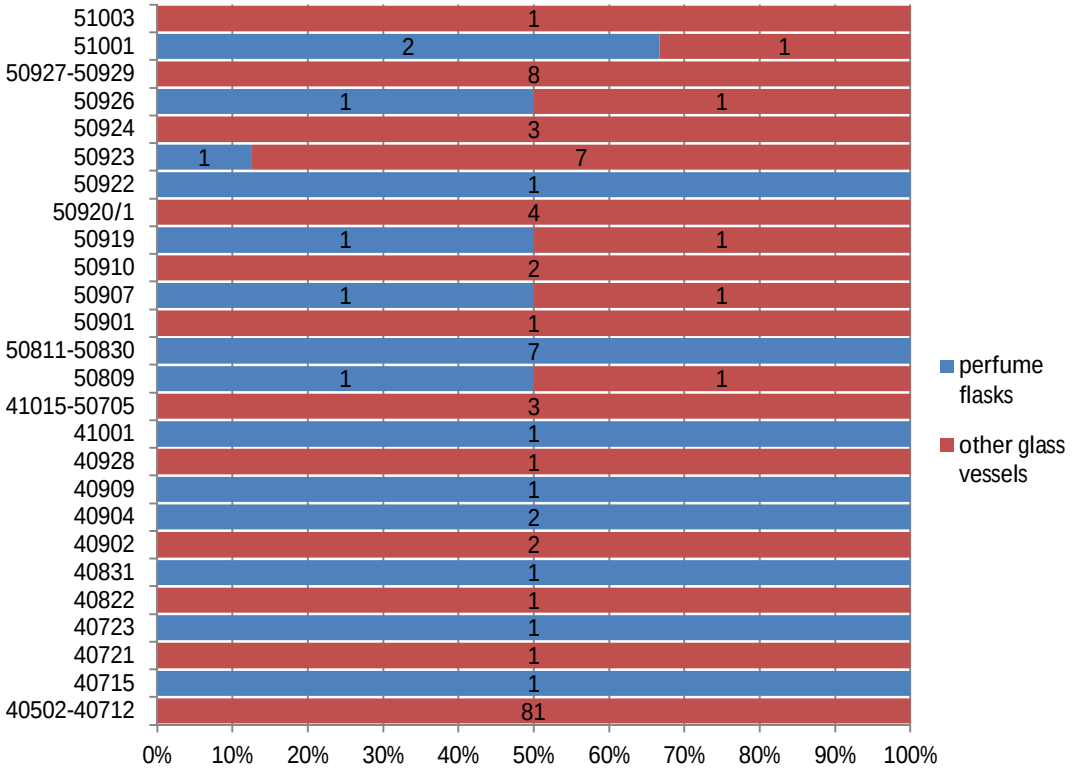


Fig.2.3-13: Finds of glasswares, recoded dates and amounts.

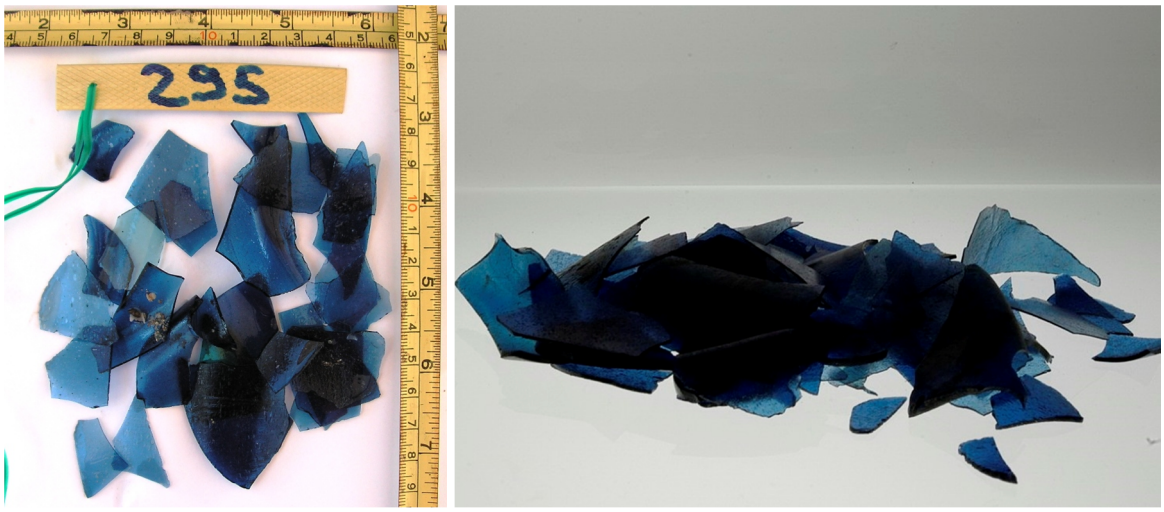


Fig.2.3-14: Glass shards found off and under the starboard planking of the wreck.

Fig.2.3-15: Glass fragments from the Karawang find.

Fig.2.3-16: Blocks of crude rock crystal. Unnumbered, top right, Art.; bottom left, Art.78242; bottom right, 115866 (and 75690? – cf. http://cirebon.musee-mariemont.be/the-cargo/search-cargo.htm?lng=en, 'crystal').

Fig.2.3-17: Crystal beads, from top left to bottom right, Arts.126945, 111589, 116535, 148333.

Fig.2.3-18: Objects of processed crystal. Unnumbered, Arts. 19236 and 155309.

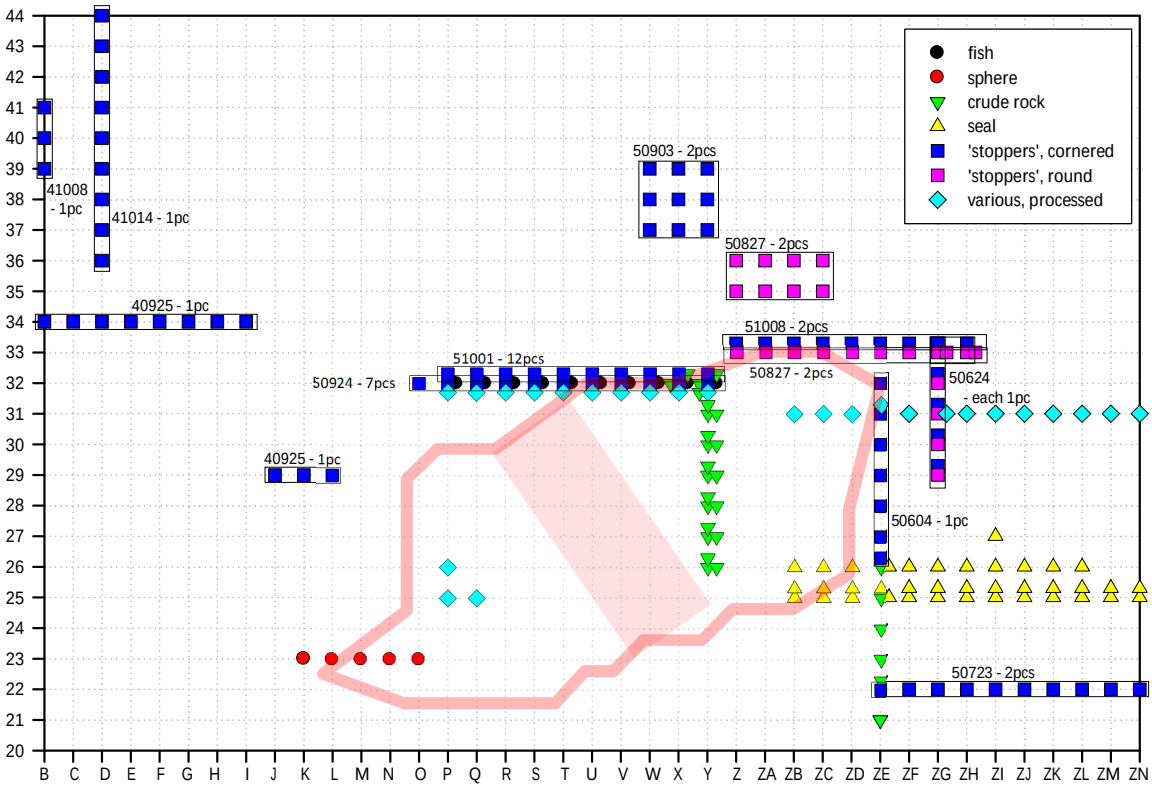


Fig.2.3-19: Distribution of crude and wrought crystal by dates; corrected chart. Proposed 'tween-deck in transparent red.

Fig.2.3-20: Crystal 'stoppers'. Top left to bottom, Arts.146381, 28515, 29169, 153169, 130673, 130664, 155317.

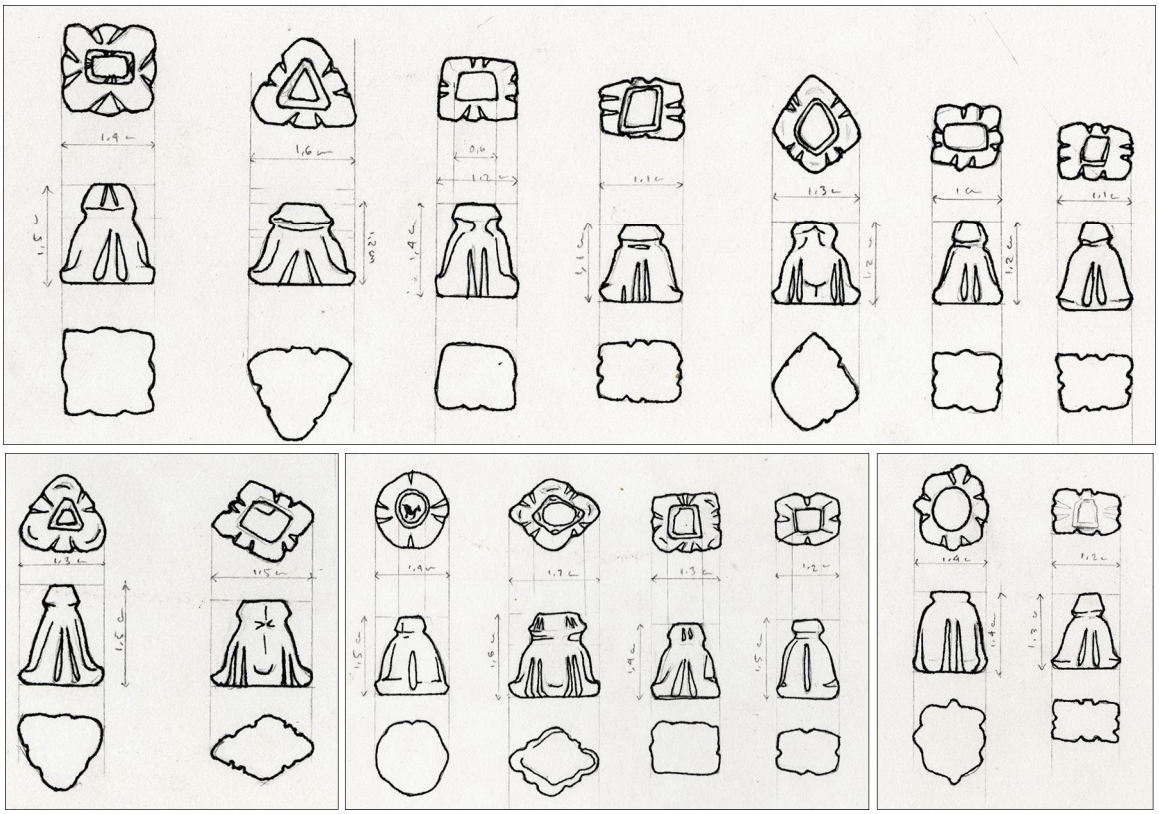


Fig.2.3-21: Shapes of cornered 'stoppers'; above, Art.155317; below, left to right, Arts. 128112, 153169 and 155677.

Fig.2.3-22: Stamp seals, from top left to bottom right, Arts. 130672, 130673, 133664, 153169, 155677.

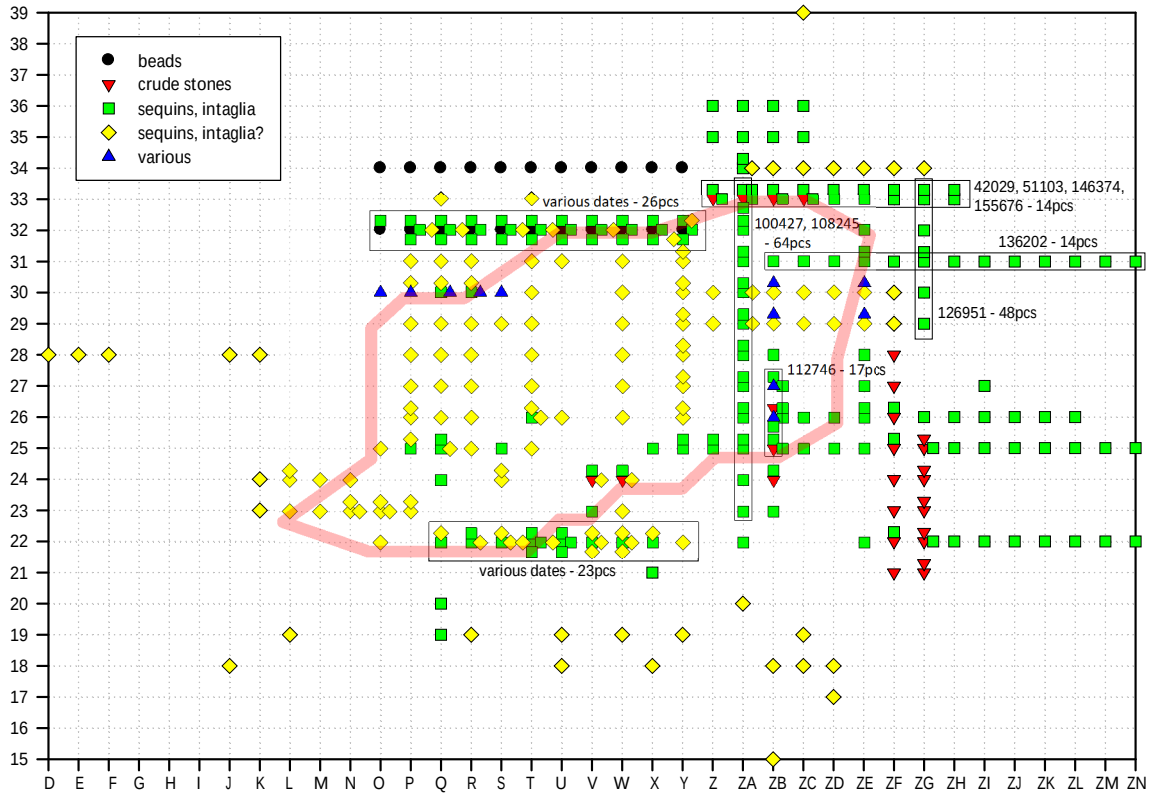


Fig.2.3-23: Distribution of confirmable lapis lazuli objects, corrected grid. Counts per entry; sequins/intaglii summed for areas with more than 10 registered objects.

Fig.2.3-24: S271, worked surfaces.

Fig.2.3-25: Art.154452, and two small pedestals depicted on the Borobudur.

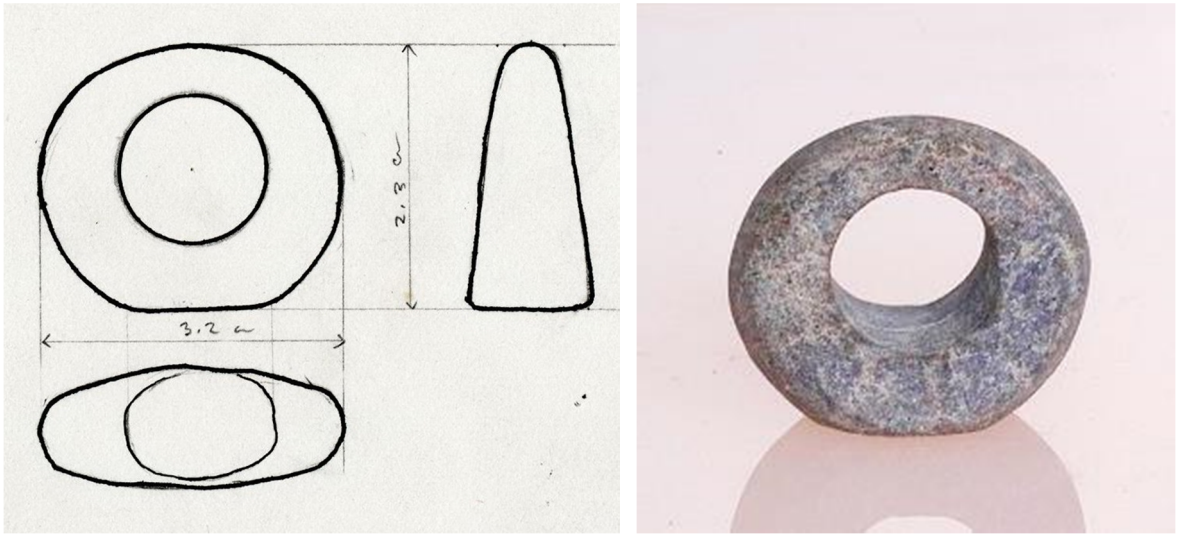


Fig.2.3-26: Art.112756, ‘ring’.

Fig.2.3-27: Lapis lazuli beads.

Fig.2.3-28: Lapis lazuli “sequins”, decorated and undecorated.

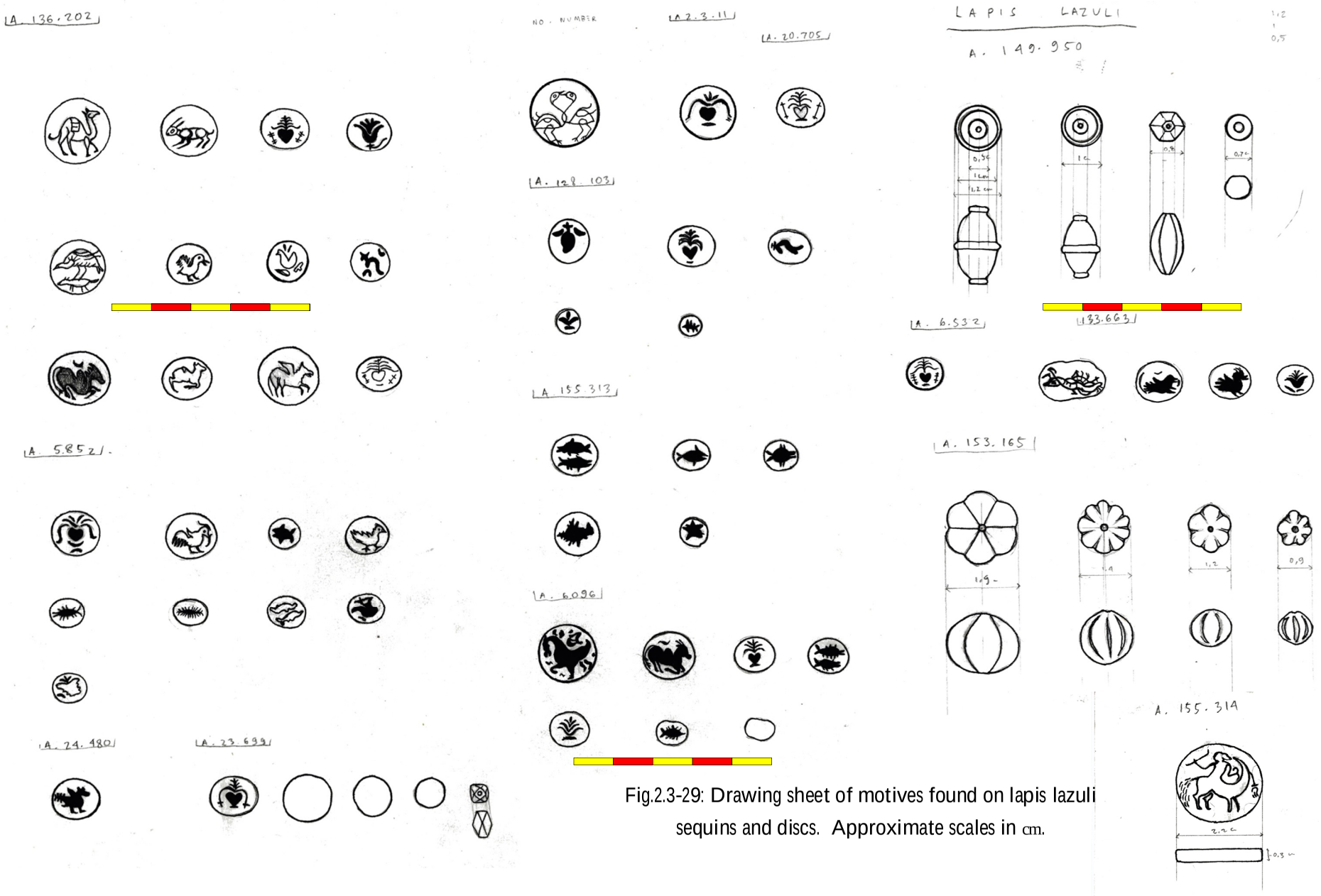


Fig.2.3-29: Drawing sheet of motives found on lapis lazuli sequins and discs. Approximate scales in cm.

Fig.2.3-30: Jewellery, on Borobudur (above) and Prambanan (below).

Fig.2.3-31: Beads, gemstones and gold-leaf retrieved from sediment.

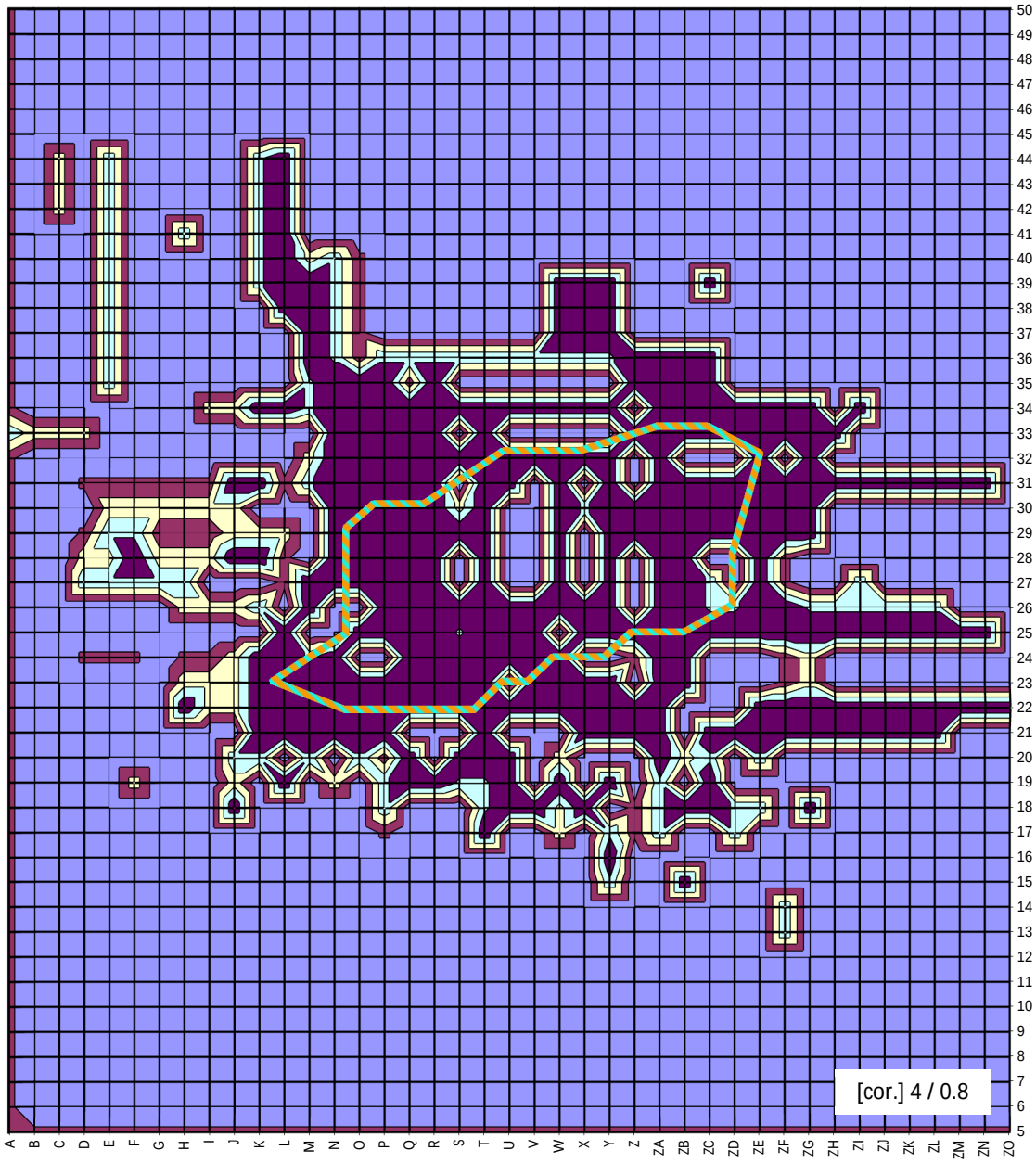


Fig.2.3-32: Distribution of major types of gemstones, beads and finds of jewellery.

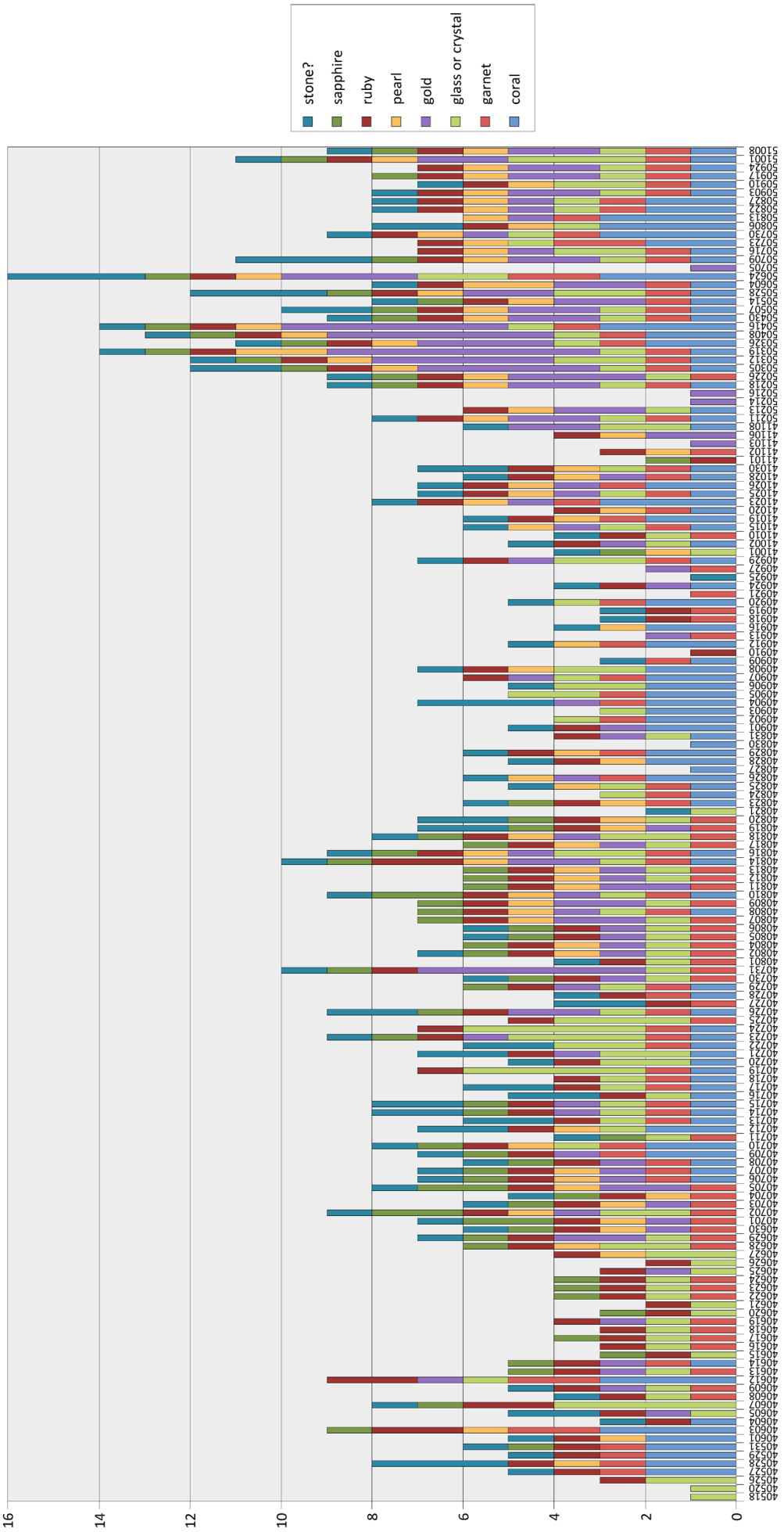


Figure 2.3-33: Records of major categories of jewellery per date.

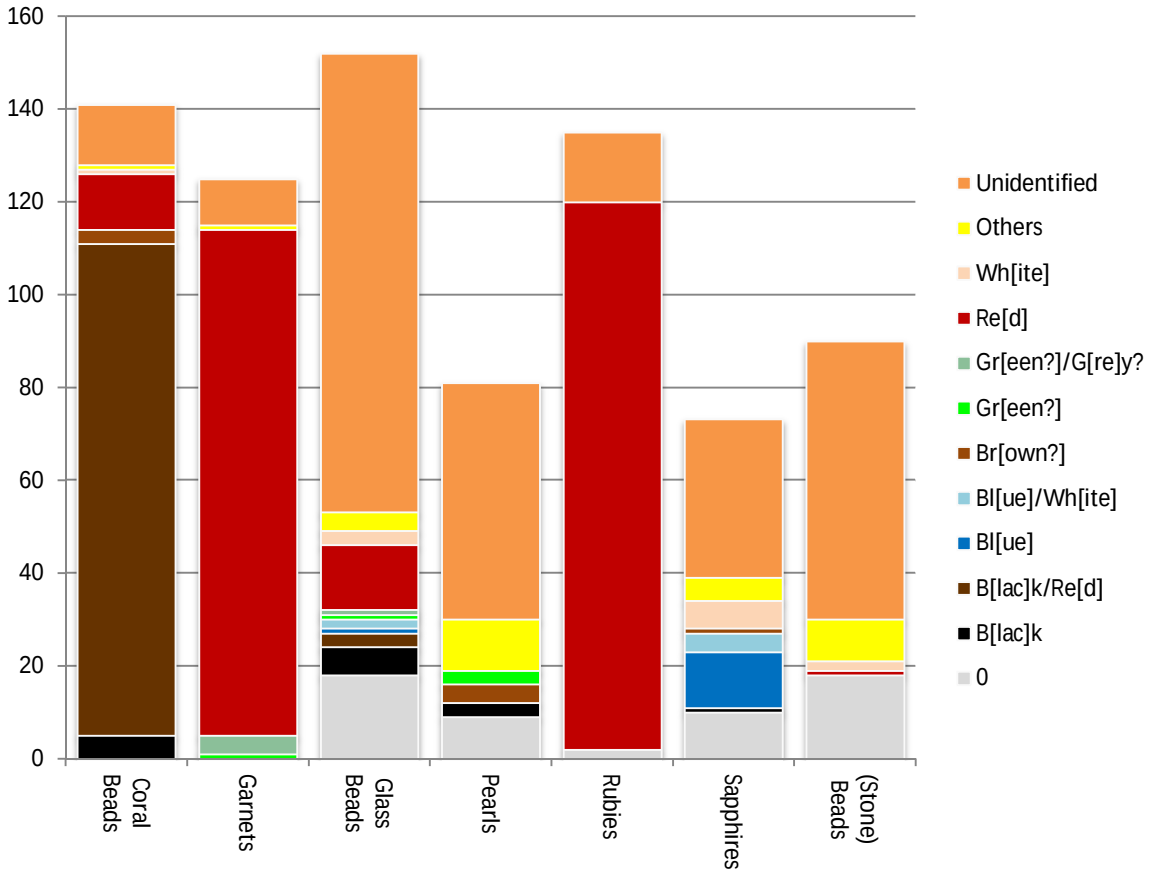


Fig.2.3-34: Key colour codes for main categories of beads and gems in <loc> records.

Fig.2.3-35: Pierced coral pendants (left); a collection of beads registered under 'coral' (Art.155312).

Fig.2.3-36: Variants of beads registered under 'glass'. Left, eyebeads, no registration number available; right, cylindrical beads, Art.155324.

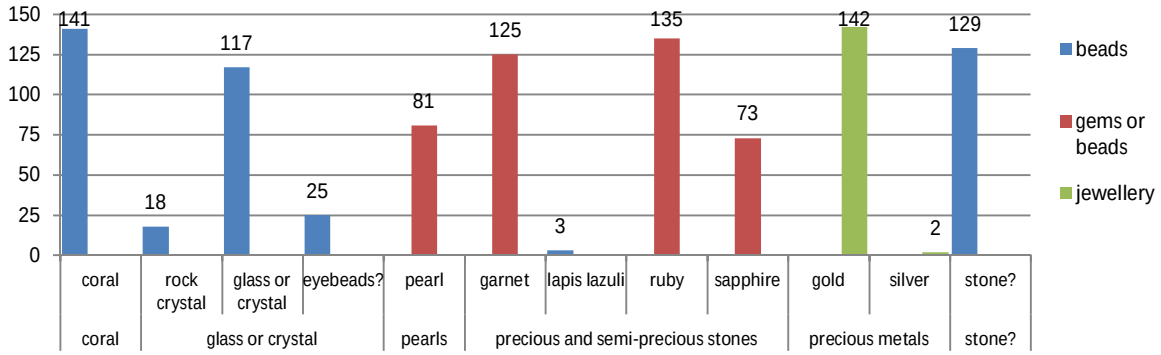


Fig.2.3-37: Provisional categorisation for jewellery and beads, count of records.

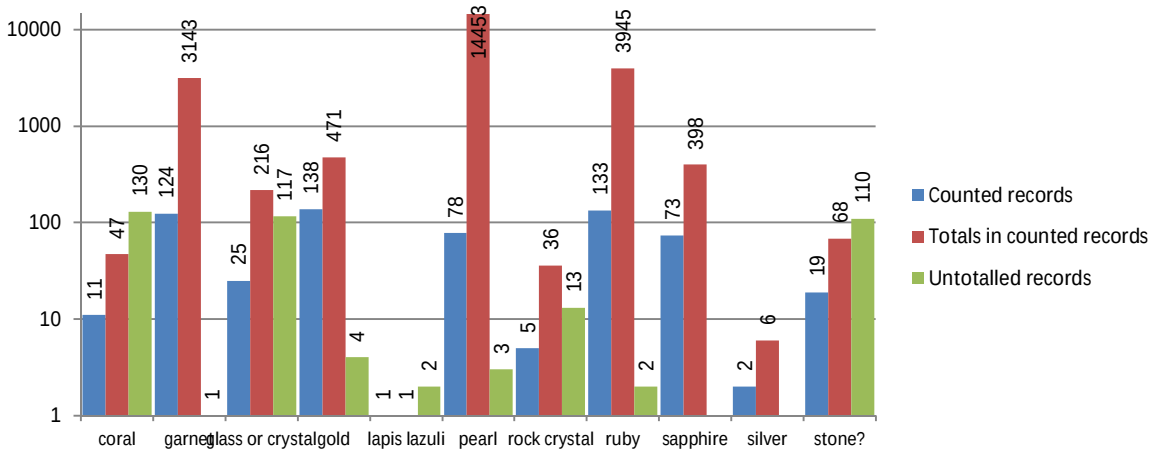


Fig.2.3-38: Counted and uncounted records of beads and stones; logarithmic scale.

Fig.2.3-39: Jewellery from midship hold, |Y26:Y32|. Unnumbered objects, Arts. 78225, 78256, 78257.

Fig.2.3-40: Jewellery and small box from central hold; pieces from Art.69078-80 and Art.69081.

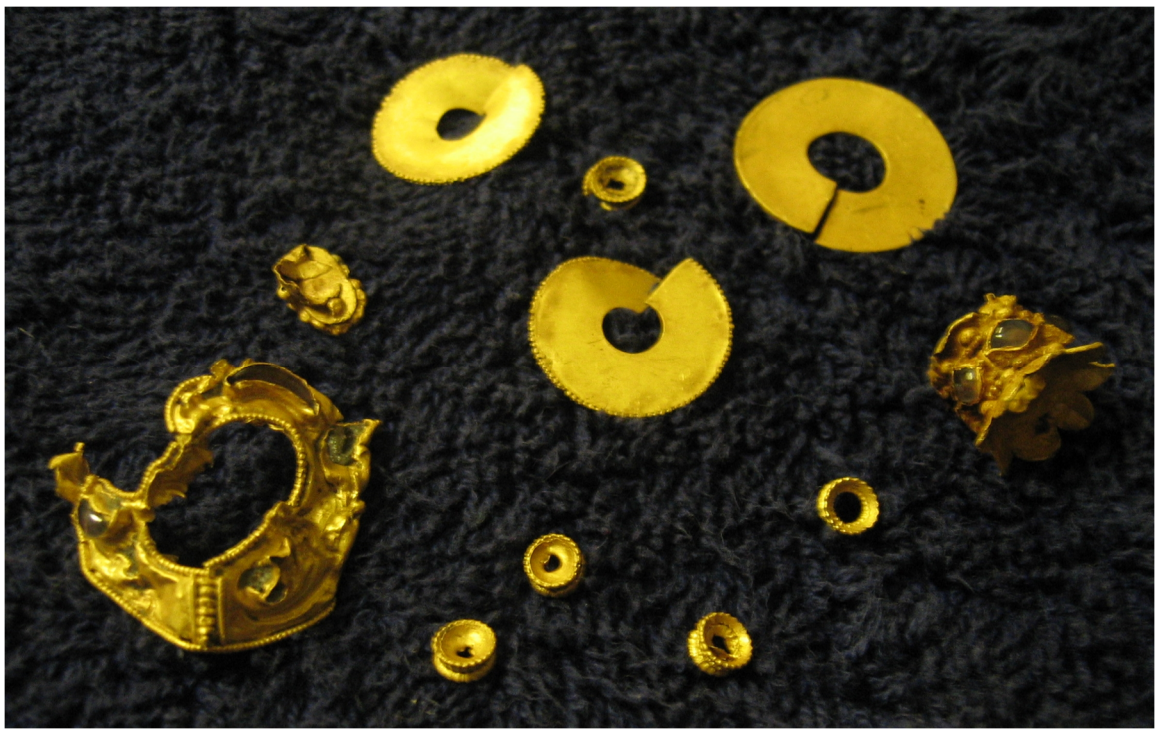


Fig.2.3-41: Jewellery from midship aft; Arts.100435 and 111586.

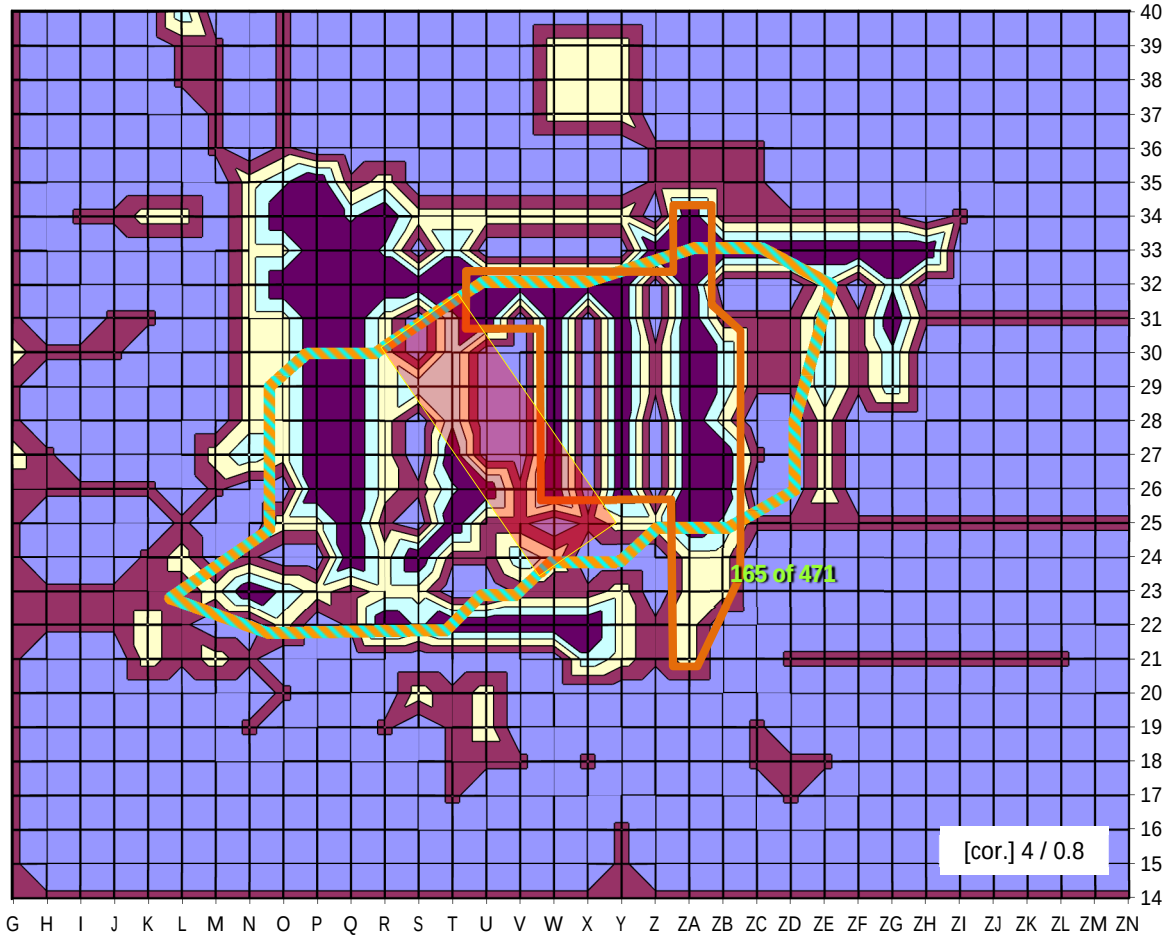


Fig.2.3-42: Distribution of fragments of gold jewellery; findspots of above gold jewellery outlined in orange; proposed 'tween-deck, transparent red.

Fig.2.3-43: Gold settings for gems and pearls; from above left, part of Art.100435; Arts.108251 and 87190.

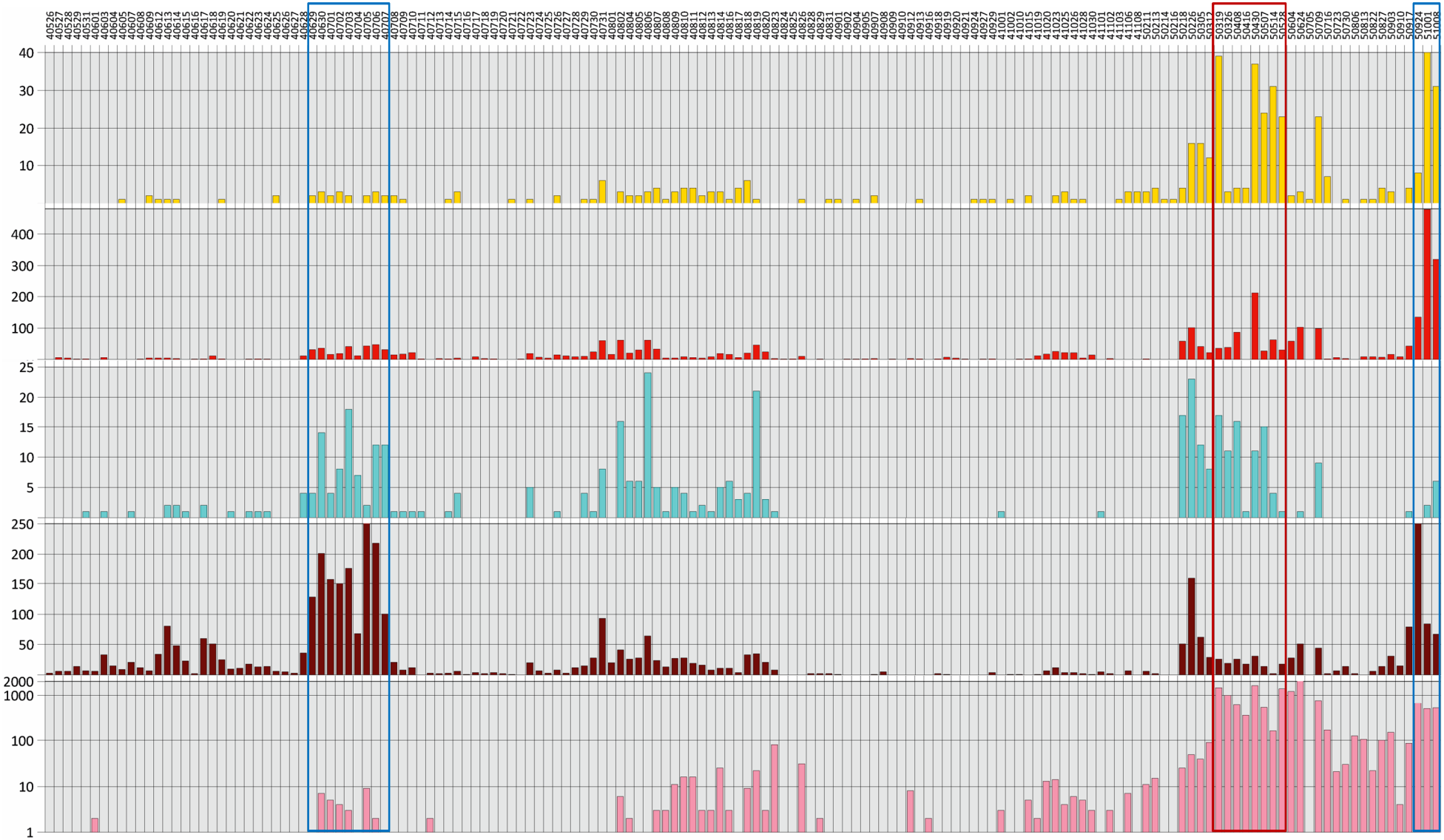


Fig.2.3-44: Dates and recorded totals of, from above to below, gold fragments, garnets, sapphires, rubies and pearls (the latter in logarithmic scale). Proposed hoard found amidships marked red; finds off the wreck's sides, blue.

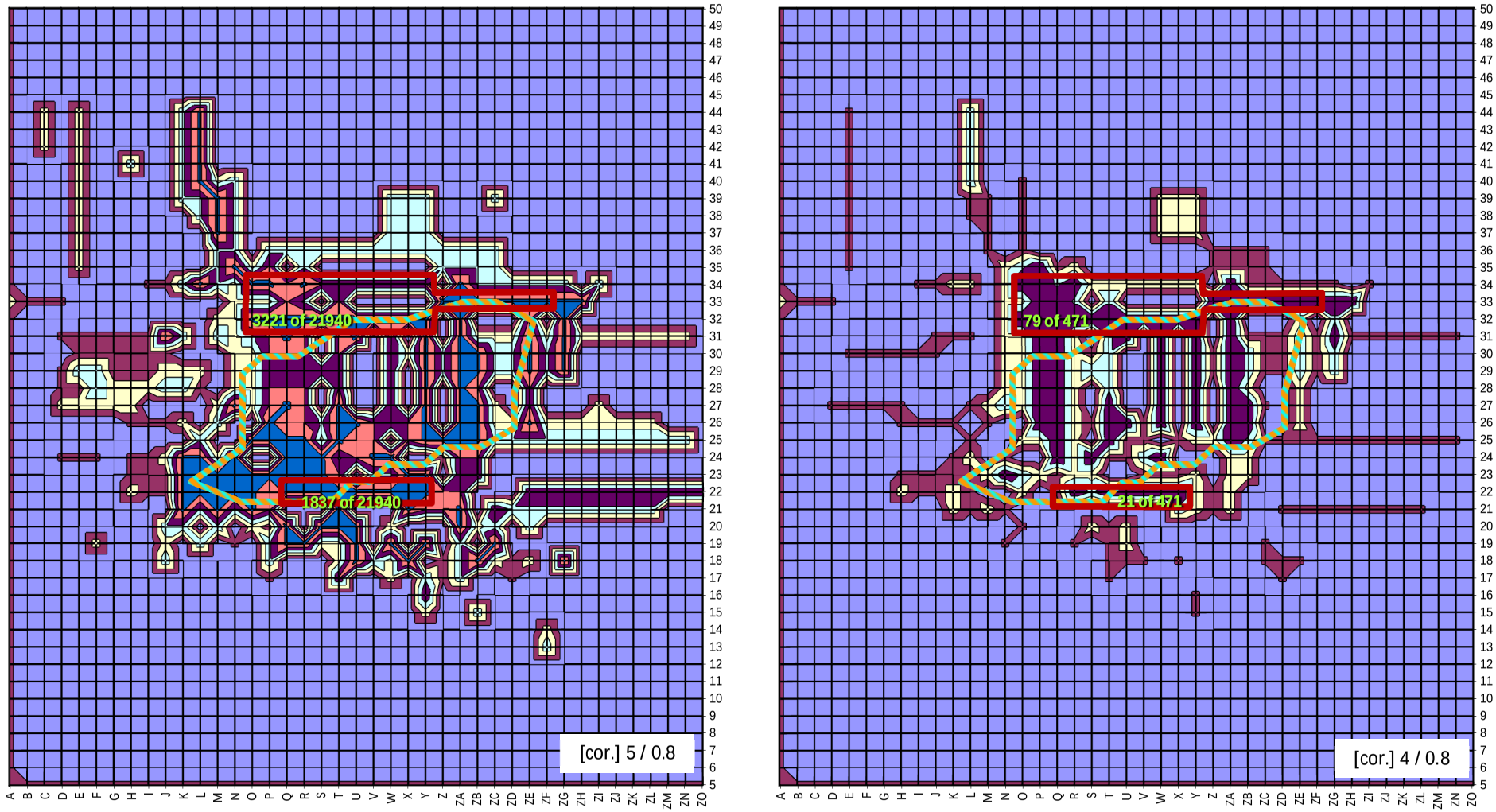


Fig.2.3-45: Distribution of precious and semi-precious stones and pearls (left) and (fragments of) gold jewellery (right). Totals of items found on grids evidently off star- and larboard of the wreck marked in red rectangles.

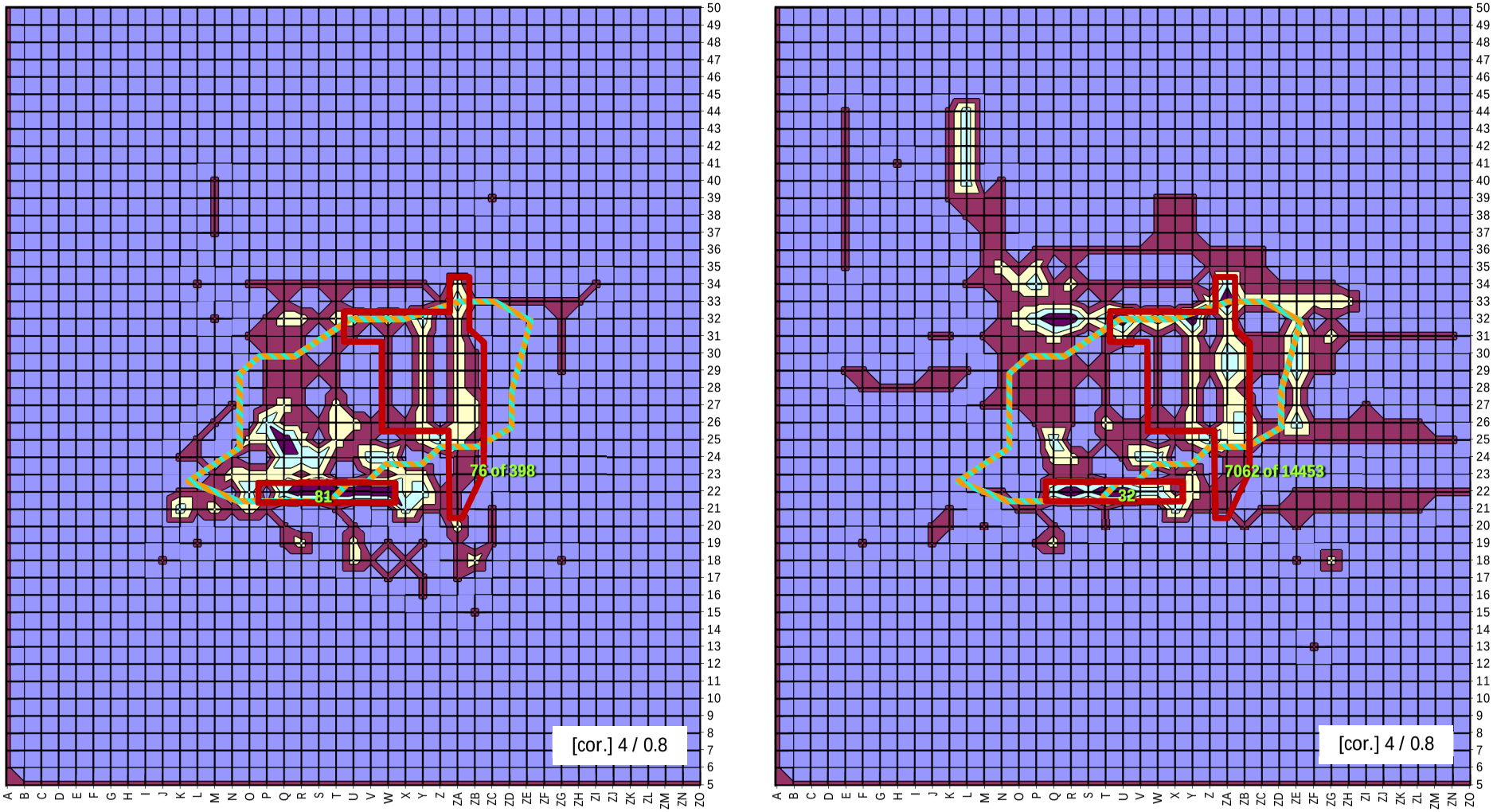


Fig.2.3-46: Distribution of sapphires (left) and pearls (right).

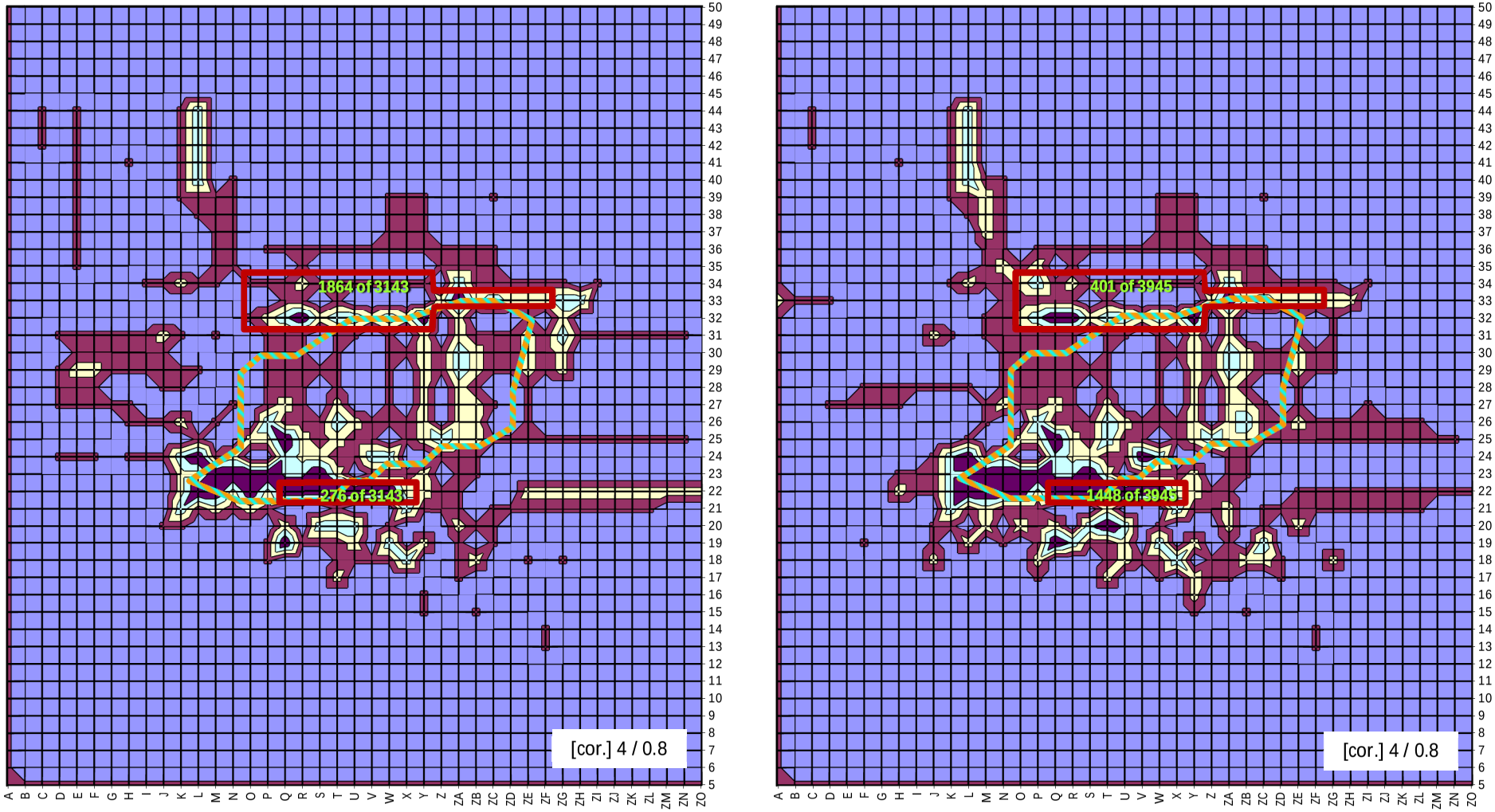


Fig.2.3-47: Distribution of garnets (left) and rubies (right).

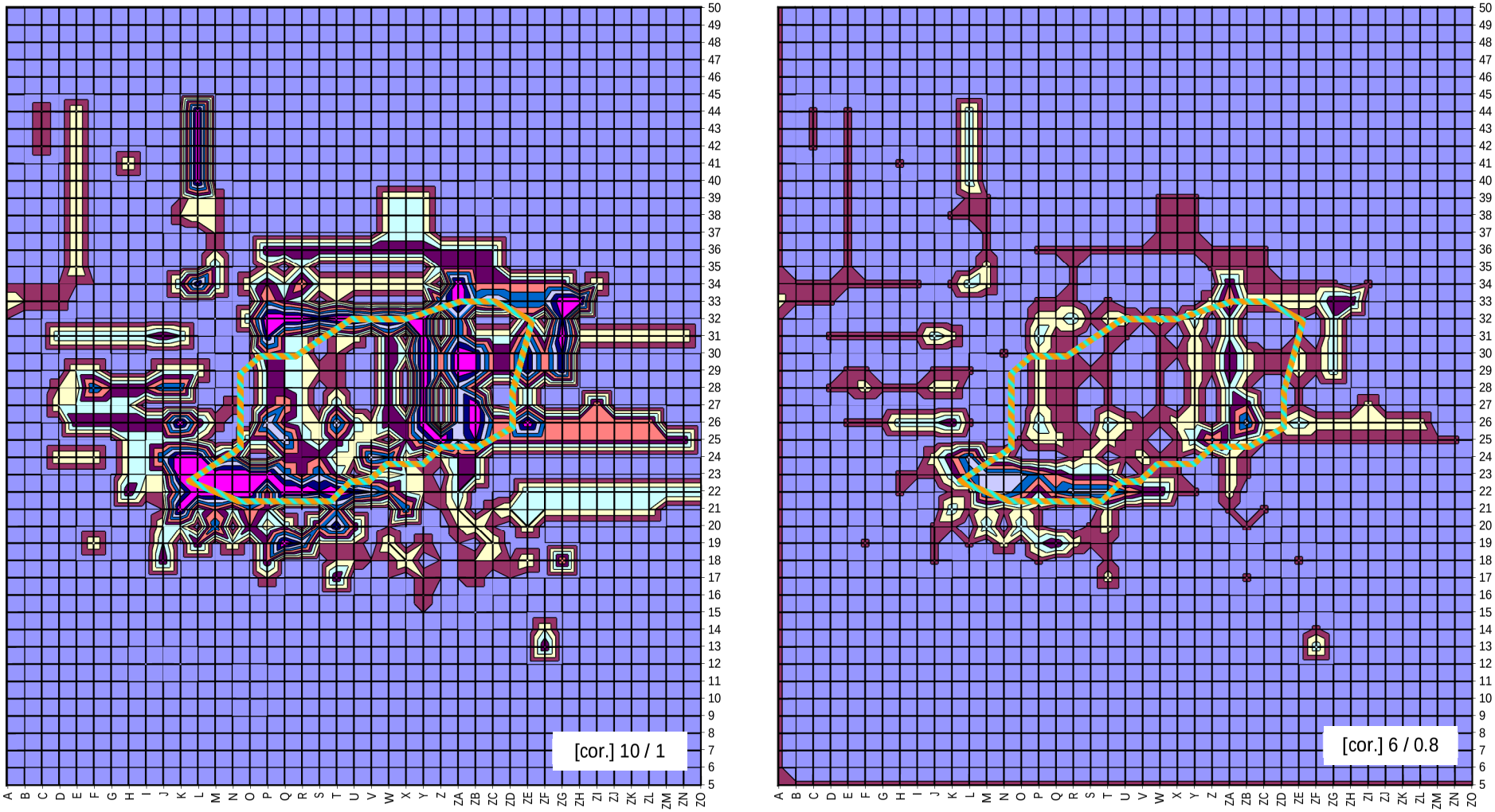


Fig.2.3-48: Distribution of all beads (left); beads registered as made of ‘stone’ (right). Cont. …

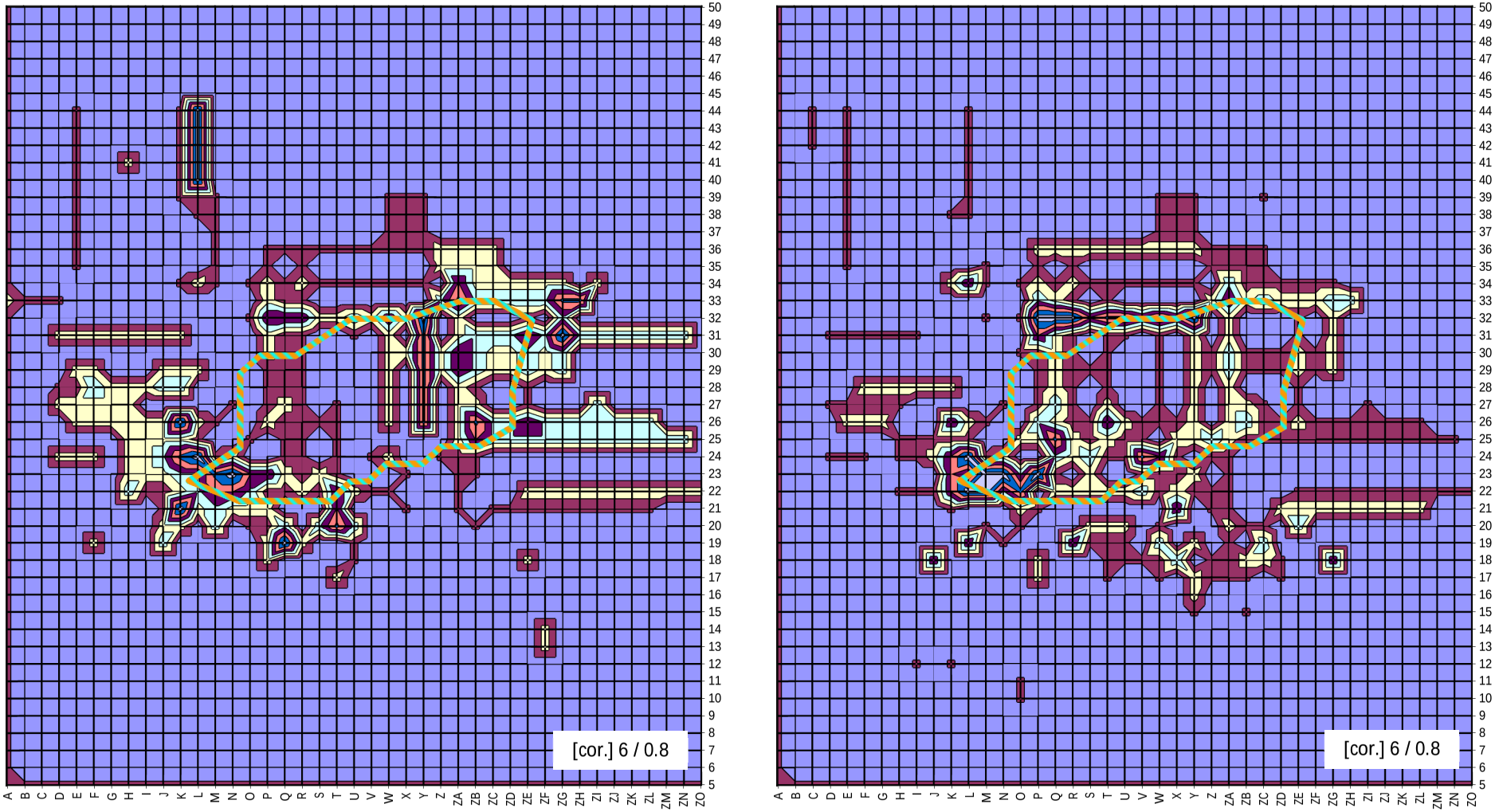


Fig.2.3-48, cont.: Distribution of ‘coral’ (left) and ‘glass’ beads (right).

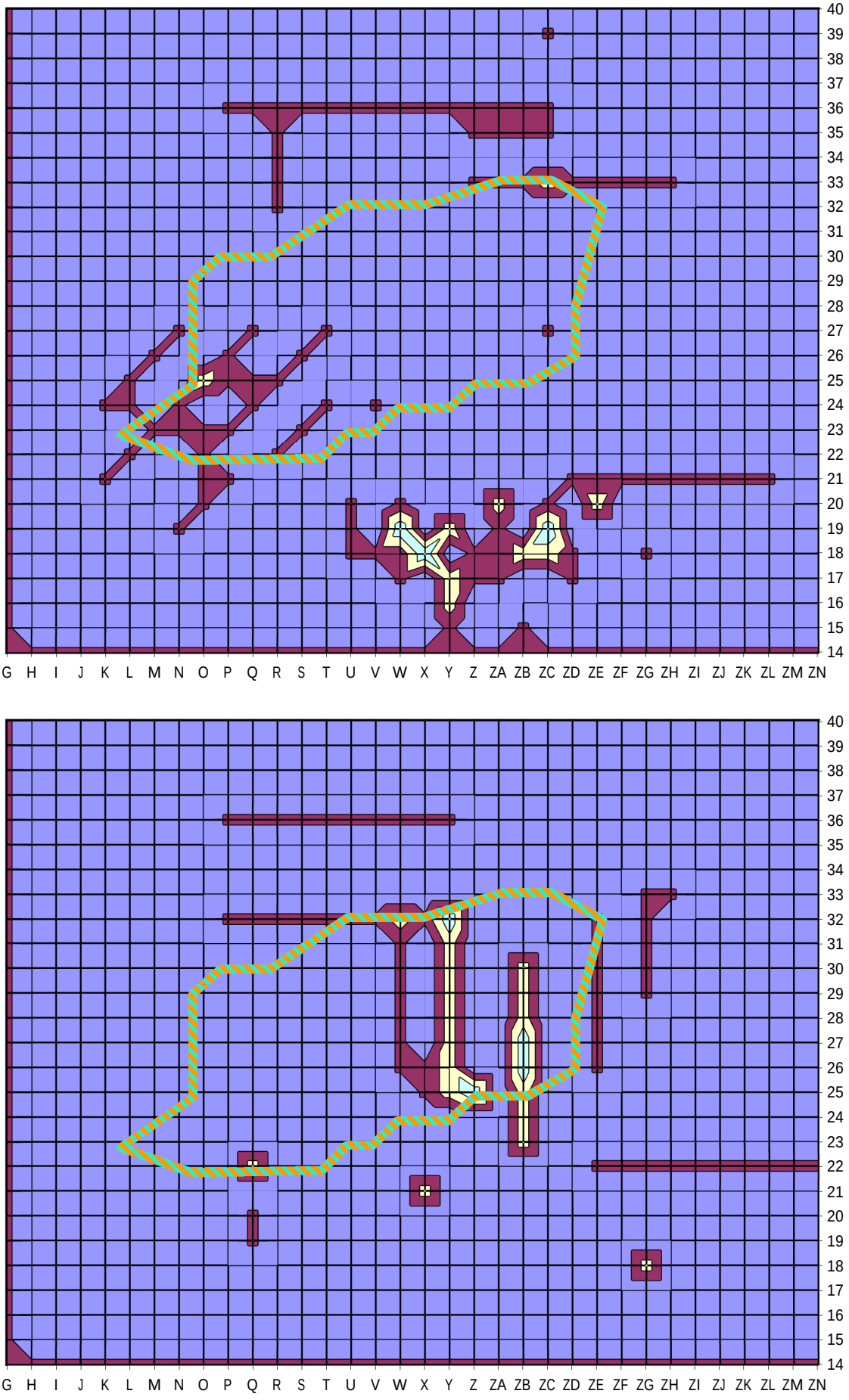


Fig.2.3-49: Distribution of proposed eyebeads (above) and beads of rock crystal or quartz (below).

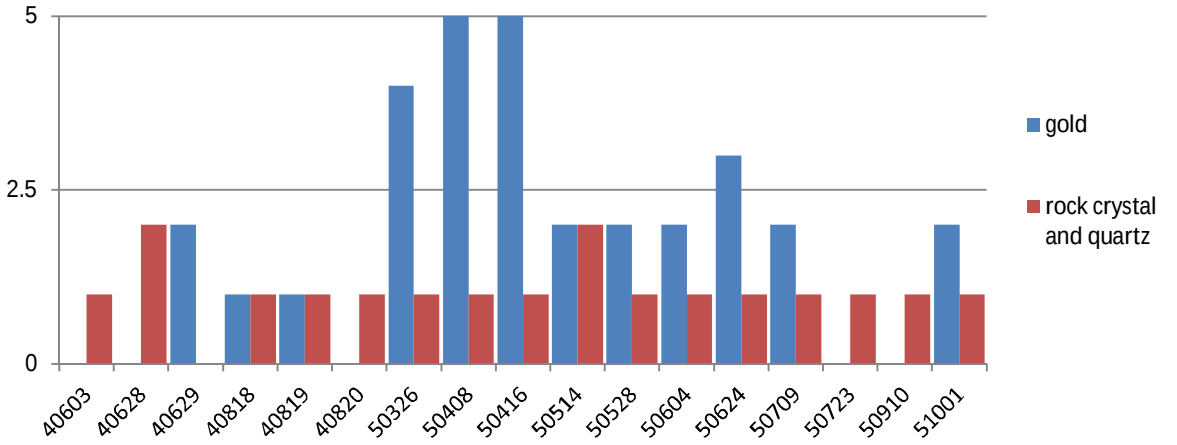


Fig.2.3-50: Dates with finds of confirmed rock crystal beads and associated records of gold jewellery.

Fig.2.3-51: Comparable detail on solid and gold leaf jewellery. Unnumbered, Arts. 126962 (above) and 31030 (left).

Fig.2.3-52: Fragments of braided gold chain.

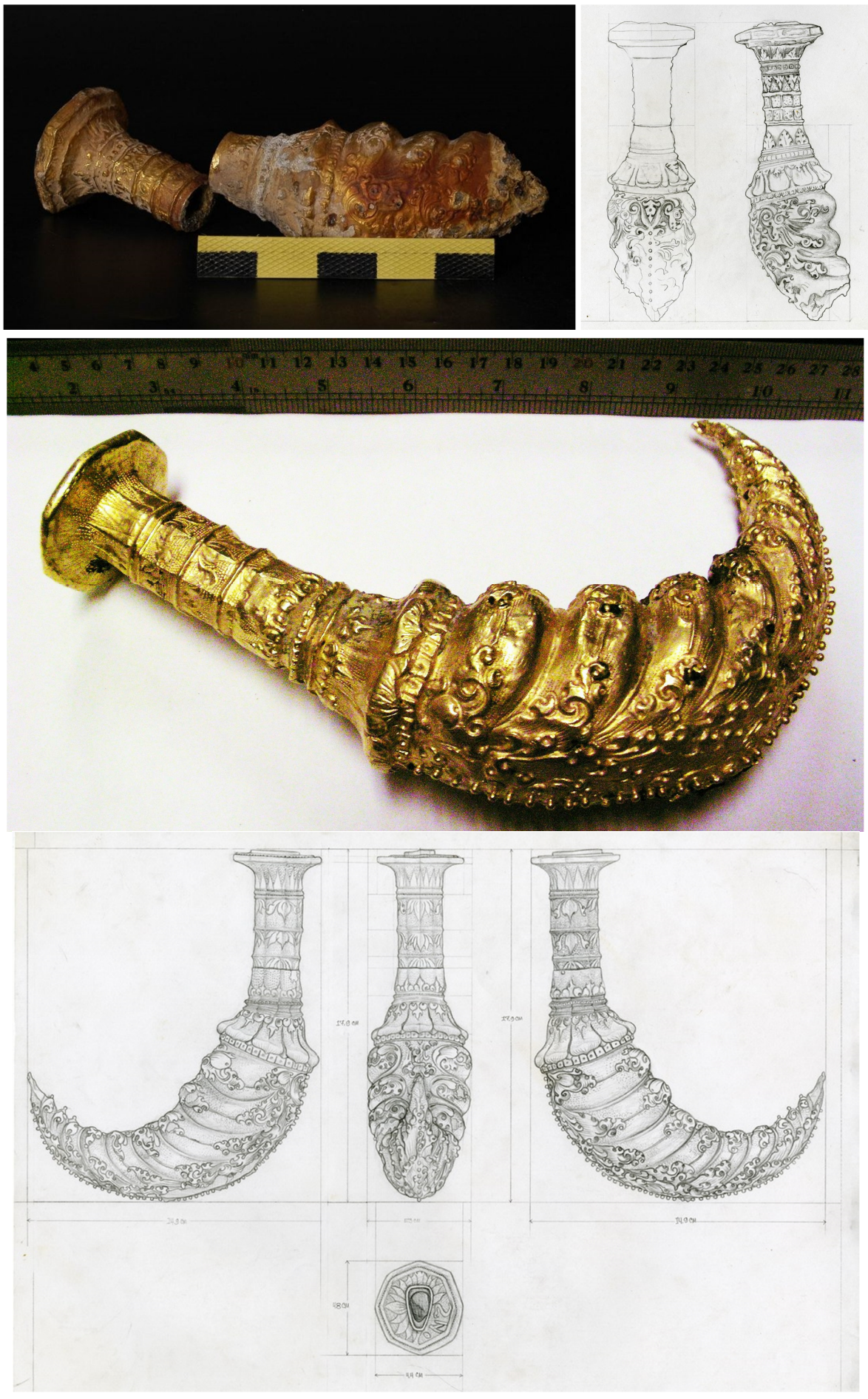


Fig.2.3-53: Gold sheeted hilts, Arts.27851 (above) and 155672 (below).

Fig.2.3-54: Quillon of Art.155672.

ولاالله

Wa-la-Allah (Sek.BMKT, 2006)

?-SA-? (A. Griffiths, pers. comm. Dec.2013)

[Śaka year] 8-7-3 (R. Kartakusuma, pers. comm., Jan.2014)

@*-S[u]-3 (A. Griffiths, pers. comm. Dec.2013)

Fig.2.3-55: Possible readings of the proposed string of letters (*a punctuation or ornamental non-letter sign [cf. Griffiths 2012: 203f]).

Fig.2.3-56: Tasbih/misbaha beads; incisions highlighted with flour.

Fig.2.3-57: Beads of Art.148328; roll-off of inscribed bead (centre); “fence”-pattern on uninscribed beads (below)

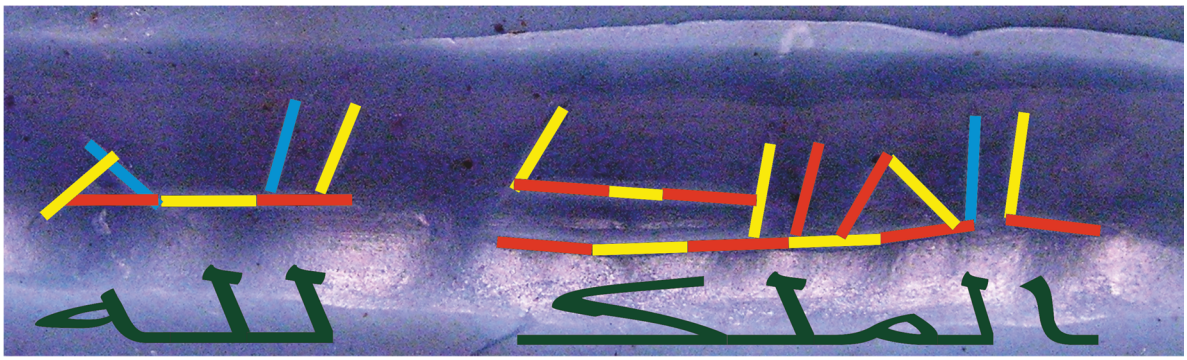


Fig.2.3-58: Roll-off, marked by blocks of equal lengths, and proposed transcription.

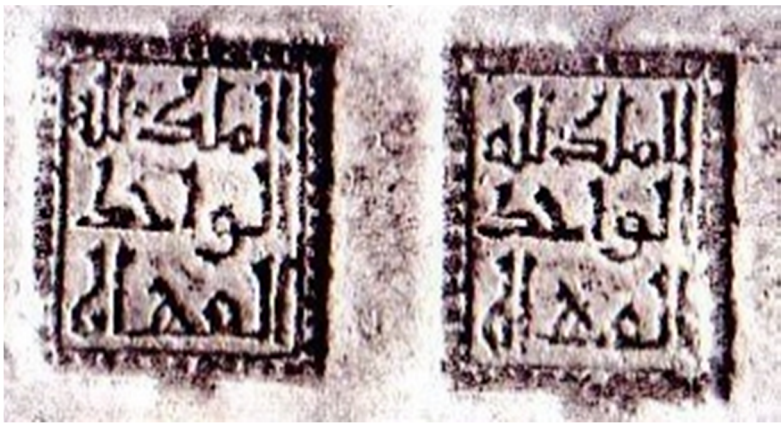


Fig.2.3-59: Mould Art.28815; rubbing of the inscription.

Fig.2.3-60: Roll-off of one of the beads of Art.128110.

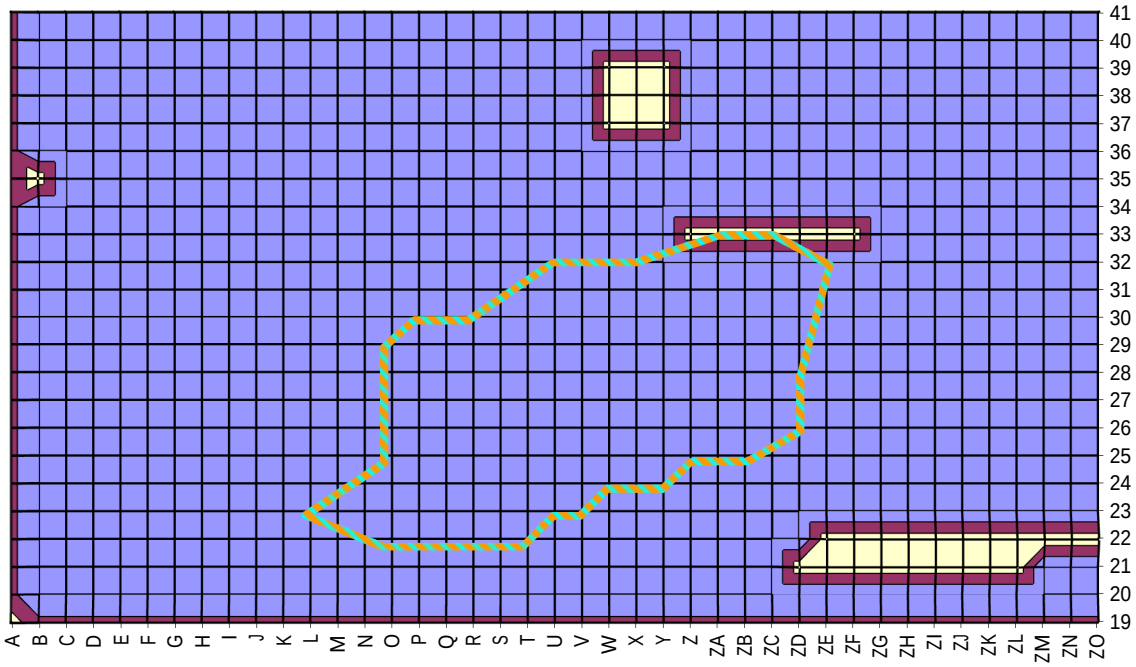


Fig.2.3-61: Findspots of rosary beads and mould, Art.28815.

Fig.2.3-62: Inscribed gold foil, Art.148341.

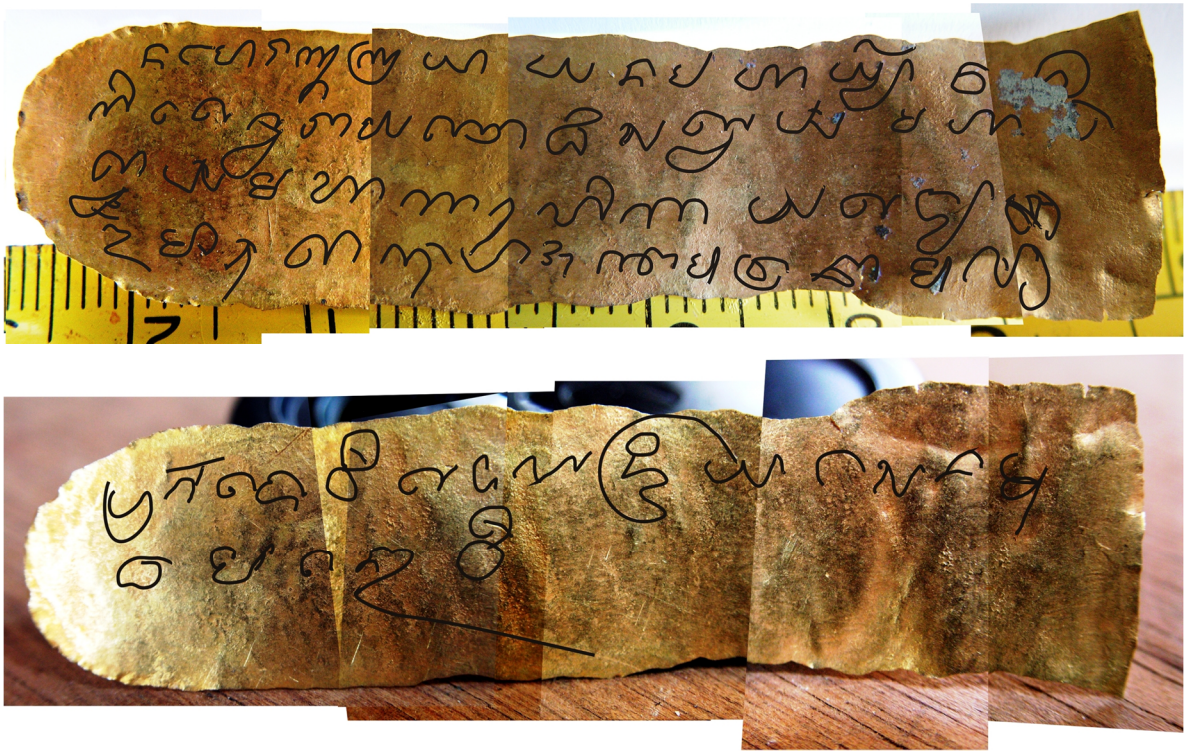
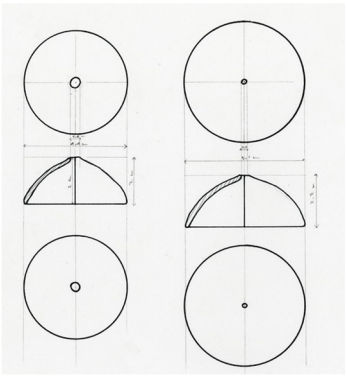


Fig.2.3-63: Photomosaic and assumed transcription of obverse (above) and reverse (below; courtesy A. Griffiths, June 2012).

Fig.2.3-64: Amulet container, above; rolls of unidentified metal sheet, below (left, S509).

Fig.2.3-65: Buddhist paraphernalia retrieved on 50526. Unnumbered, *khakkhara* sistrum, Art.112254; *ghanta* bell, Art.112255. Cont. …



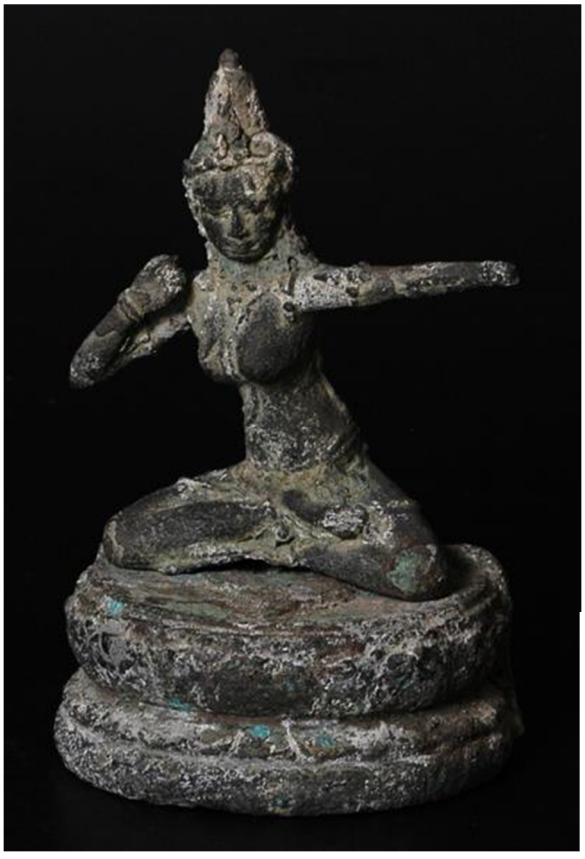
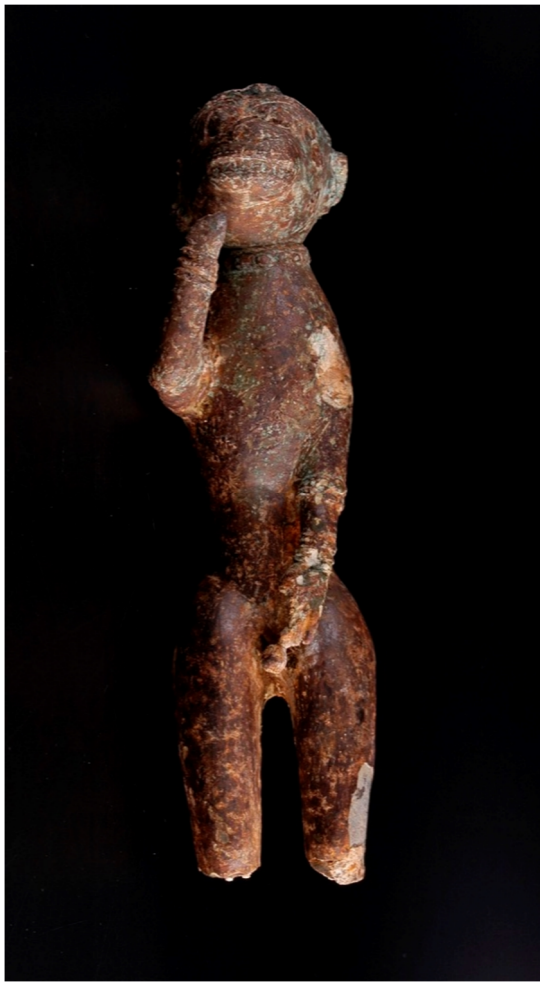


Fig.2.3-65, cont.: Snail and stand, Art112742, 50528; tripod, Art.112251, 50526; *tingśa* cymbals, Art.112763, 50528; *śaṅkha* conch, Art.112536, *kuṇḍikā*, Art.112741, figurine of Red Tārā or Vajrarāga, Art.112537, 50527.



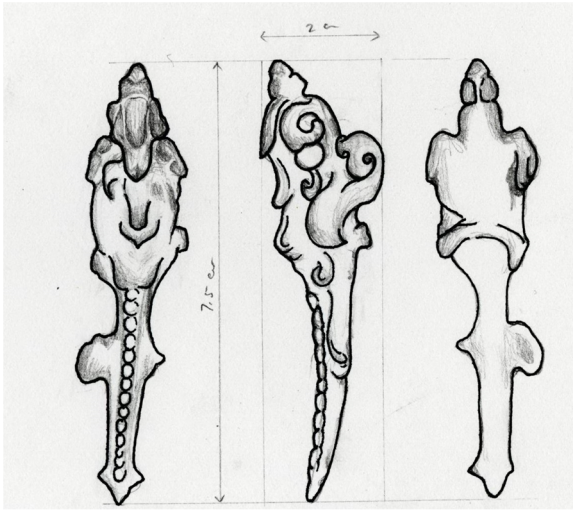


Fig.2.3-66: Objects with ritual background. Unnumbered, Buddhist paraphernalia retrieved on 50526. Unnumbered, bell, Art.151406; figurine, Art.13570; proposed *vyala*, Art.30509; small 'lizard', Art.111596.

Fig.2.3-67: *Śaṅkha* conches; from above left to bottom right, Arts.143145, 137181, 92840, 26472.

Fig.2.3-68: Unnumbered objects, from above left to bottom right, proposed alms-bowl, Art. 143146; lamp or censer Art.154893. Cont. …

Fig.2.3-68, cont.: Unnumbered objects, from above to below, incisions on proposed *talam* plate, Art.28680; fragments of proposed *amrita* vessel, S393; Art.6101.

Fig.2.3-69: Proposed parts of pedestals or standards, cont. …

Fig.2.3-69, cont.: Proposed parts of pedestals or standards.

Fig.2.3-70: Pedestal and standards depicted on the Borobudur.

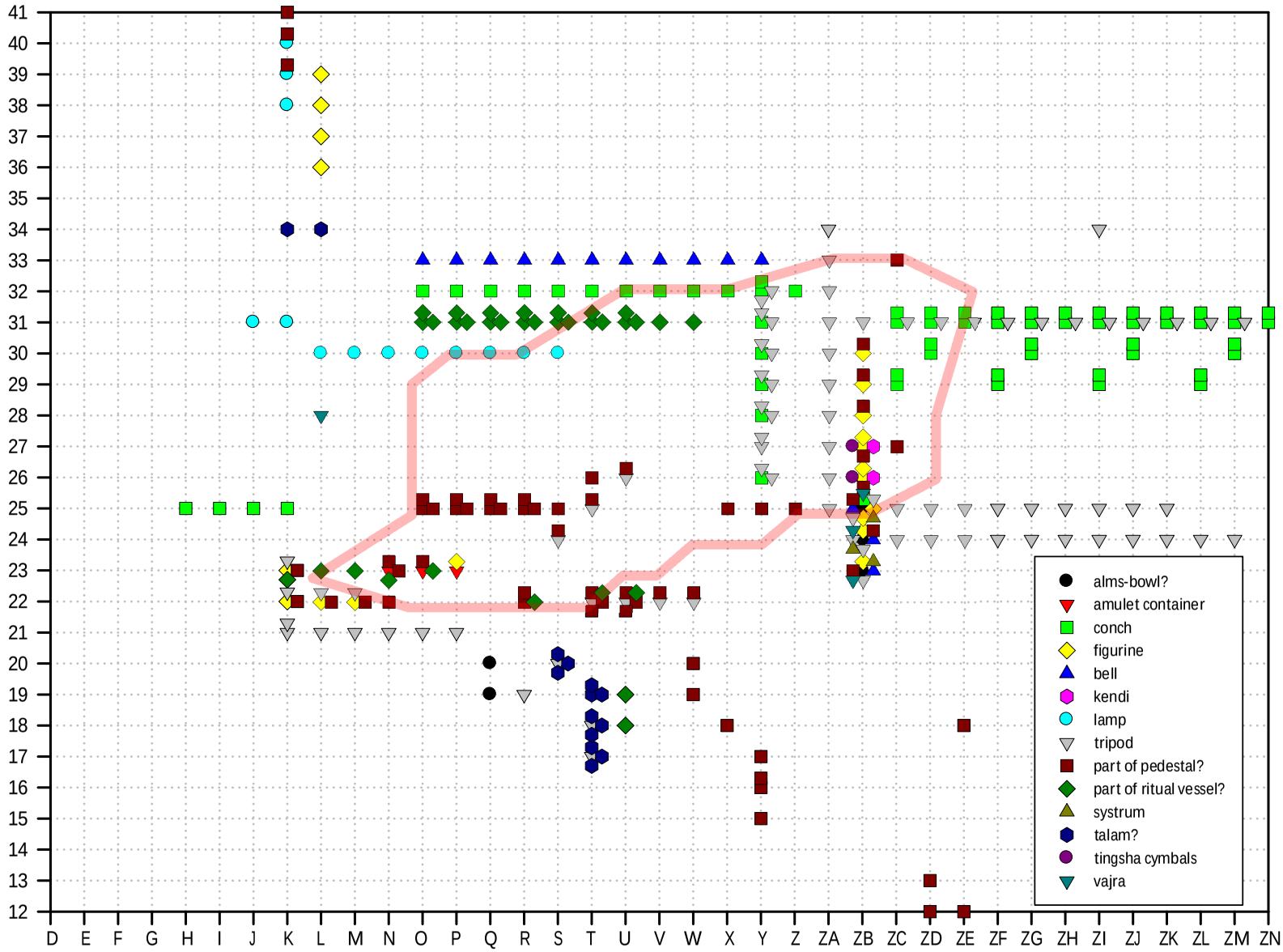


Fig.2.3-71: Corrected distribution of objects with a proposed ritual background.

Fig.2.3-72: Objects found in the vicinity of the *vyala*; unnumbered, lamp, Art.30154; finial, Art.29952.

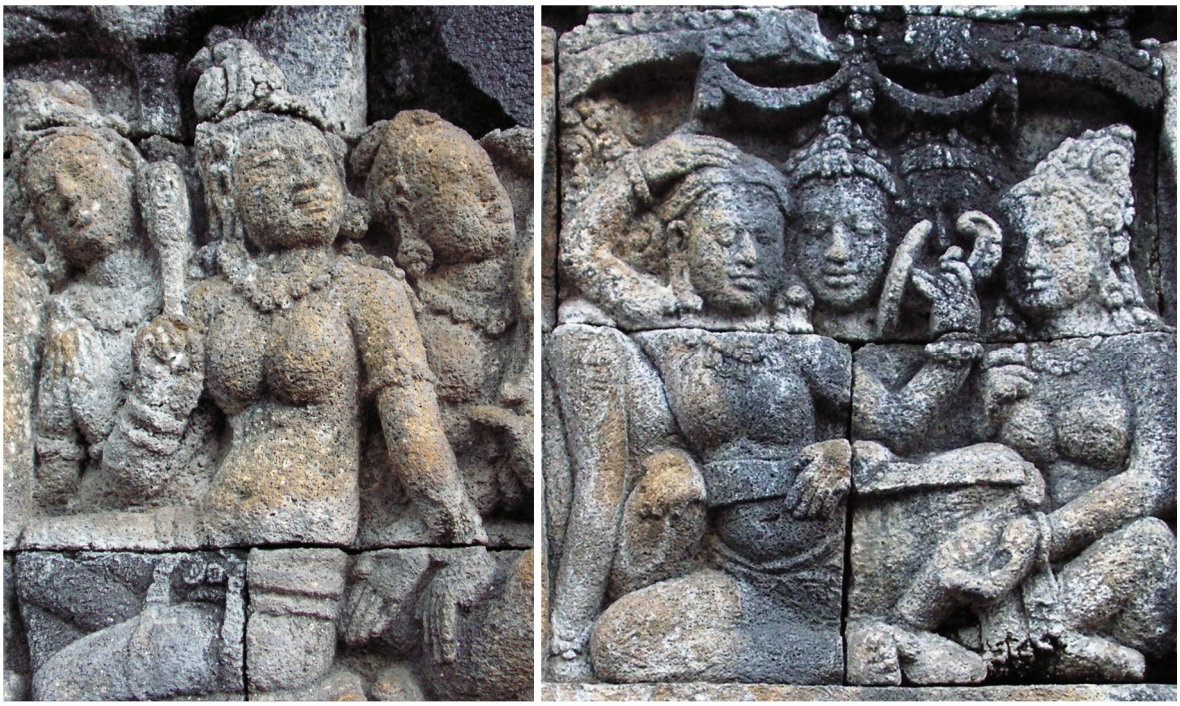


Fig.2.3-73: Mirrors depicted on the Borobudur.

Fig.2.3-74: An undecorated Chinese mirror with a central loop for a string (left); the 'Indonesian' version with handle still attached (right).

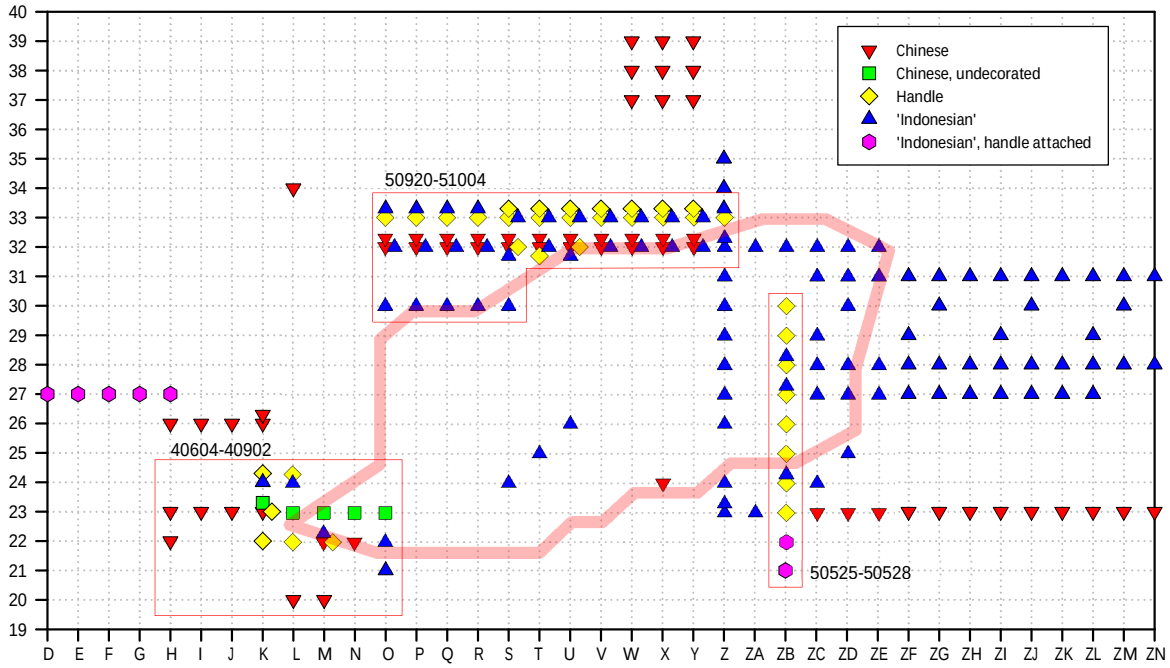


Fig.2.3-75: Distribution of mirrors over central site; corrected entries.

Fig.2.3-75: Art.111848.

Fig.2.3-77: Finds of mirrors and proposed ritual objects per date.

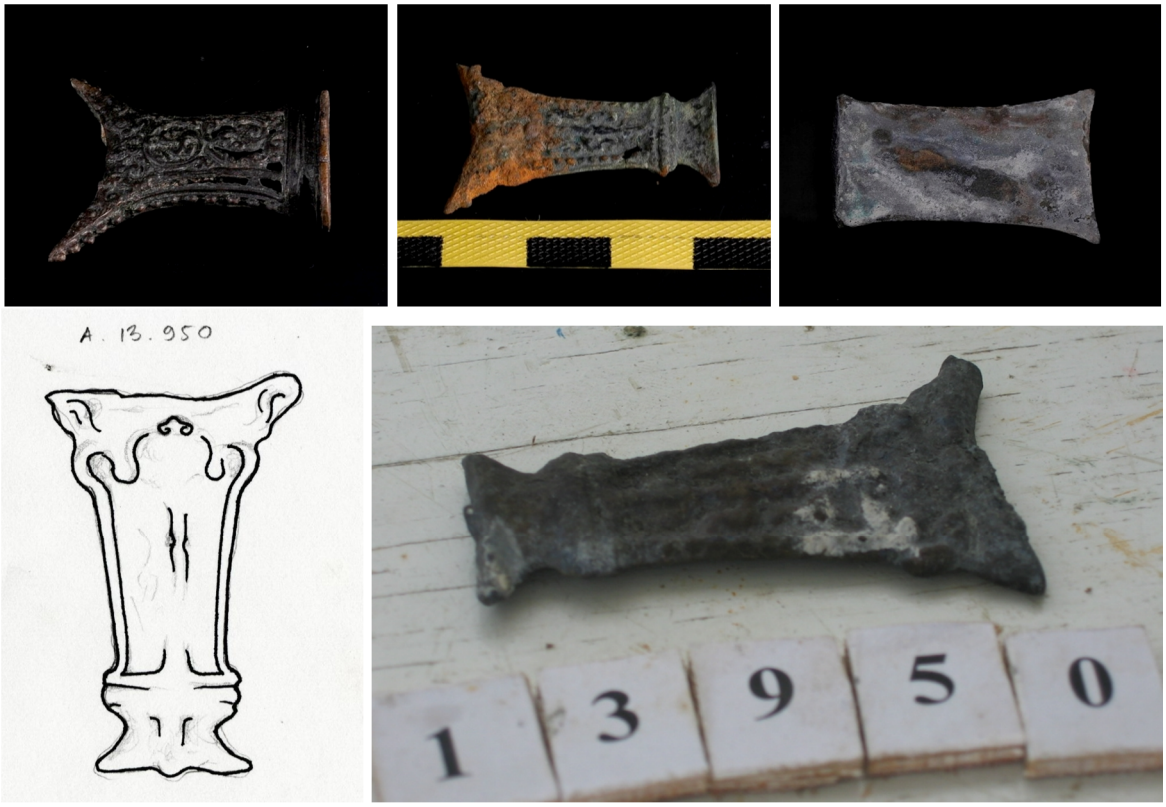


Fig.2.3-78: Decorated handles of Indonesian mirrors; Art.150896 (above left); Art.155458 (above centre) and, reportedly, its obverse (above right).

Fig.2.3-79: Unrestored Chinese mirrors; from left to right, Arts.128839 (a possible 'lion and grapevine' motif? – see Cat.284, 2005.1.00843, Belitung wreck; Louis 2011: 214, 218), 153159 and 7279.

Fig.2.3-80: Art.153158.

Fig.2.3-80: Art.26622.

Fig.2.3-81: From left to right, S572, S595, S630.

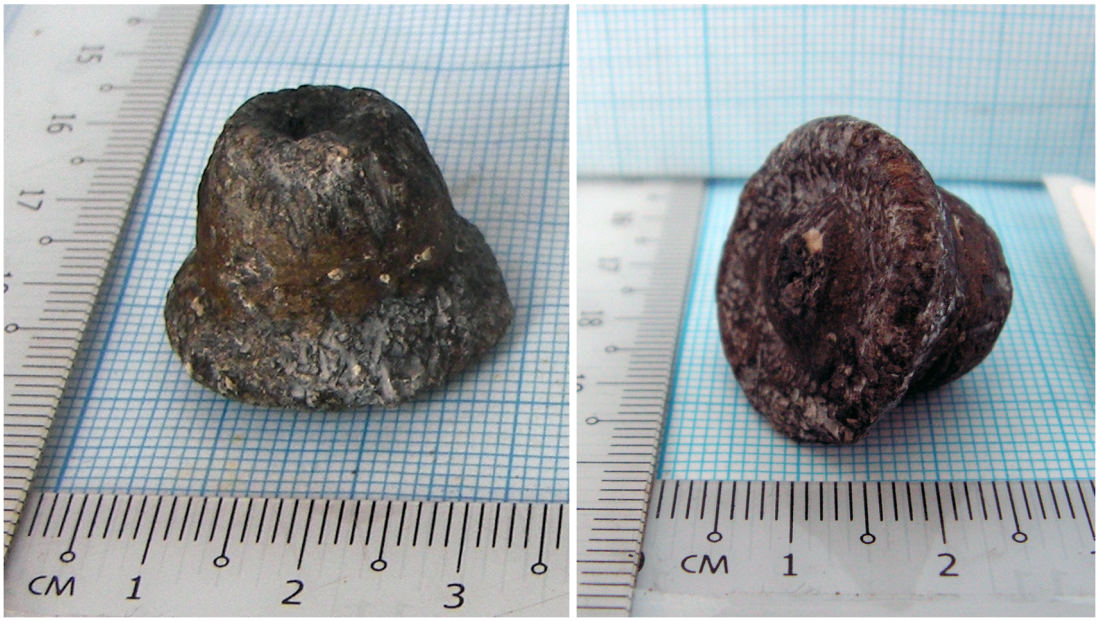


Fig.2.3-82: Stūpika-shaped cone in Karawang cargo, Art. 49010034.

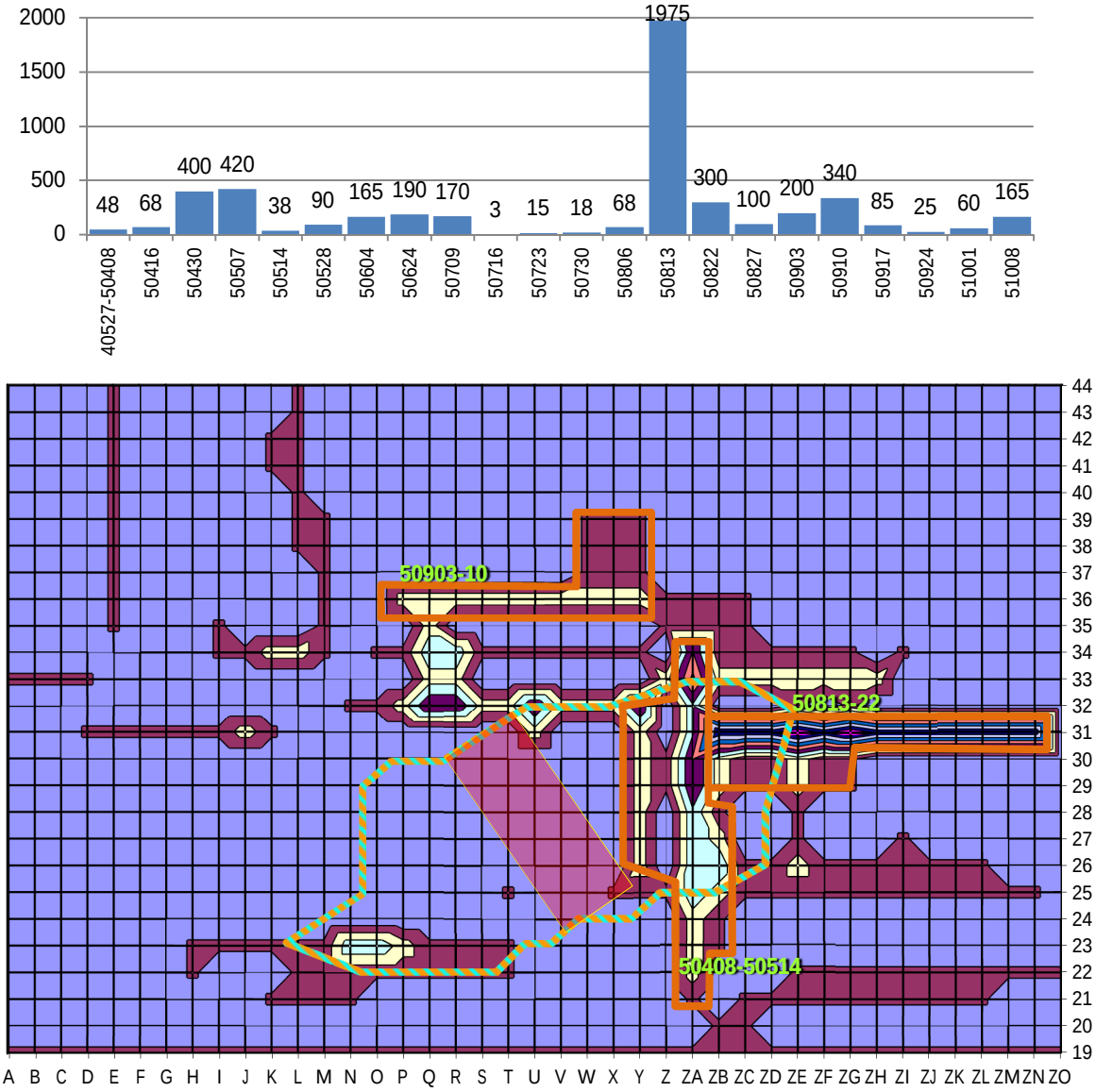
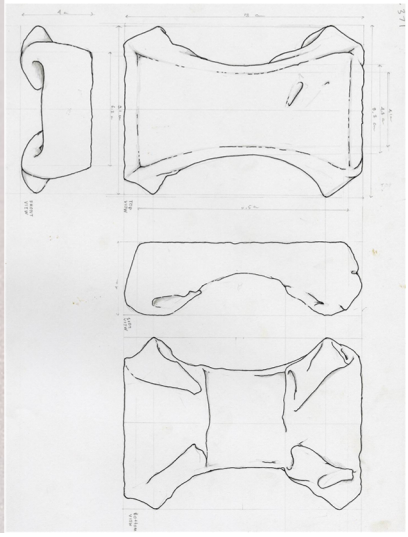
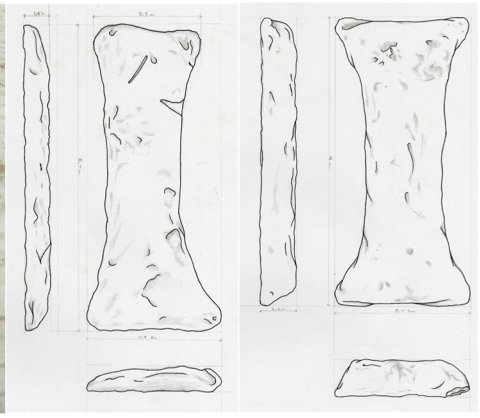


Fig.2.3-83: Finds of Chinese cash, recorded totals per date (above) and distribution (below).

Fig.2.3-84: 周元通寶 Zhou Yuan tong bao, 955/6, Later Zhou (left); 乾亨重寶 Qian Heng zhong bao, first issued in 917-924/5, Nanhan.

Fig.2.3-85: Available photographs and drawings of silver ingots; unnumbered, Art. 17755. Cont. …





Art.#	*7975*	*13371*	*17755*	*27716*	*27717*	*27718*	*27719*
Weight (gr)	2419	963	2070	734	1307	1066	1350
Art.#	*27774*	*27775*	*31077*	*31078*	*128115*	*151867*	*153179*
Weight (gr)	1194	1442	958	1482	428	2089	1630

Fig.2.3-85, cont.: Silver ingots; unnumbered, above, Art.13371; below, presumably Arts.27716-9.

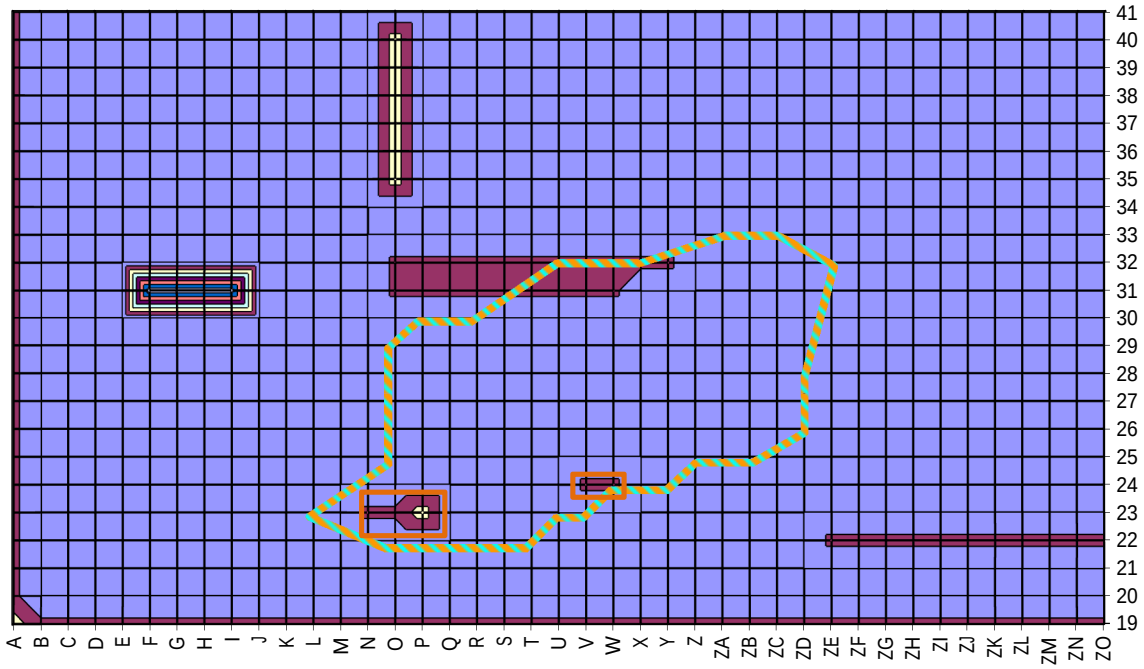


Fig.2.3-86: Distribution of silver ingots; type (i) ingots marked by dark orange squares.

Fig.2.3-87: Proposed tin “money rods”; above right, “sutures” or “seams” on objects from S455.

Fig.2.3-88: ‘Canoe currency’ and “money rod”.

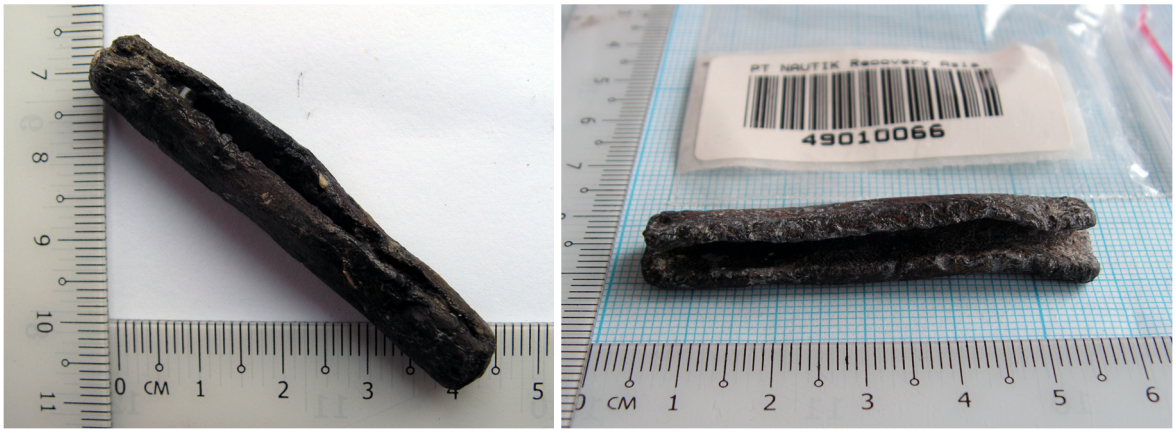


Fig.2.3-89: Comparable objects from the Karawang cargo; left, Art. 49000245.

Fig.2.3-90: “Clasp money”.

Fig.2.3-91: Variant of ‘clasp-money’.

Fig.2.3-92: “Money rings”; unnumbered, left, S524, Art.100437.

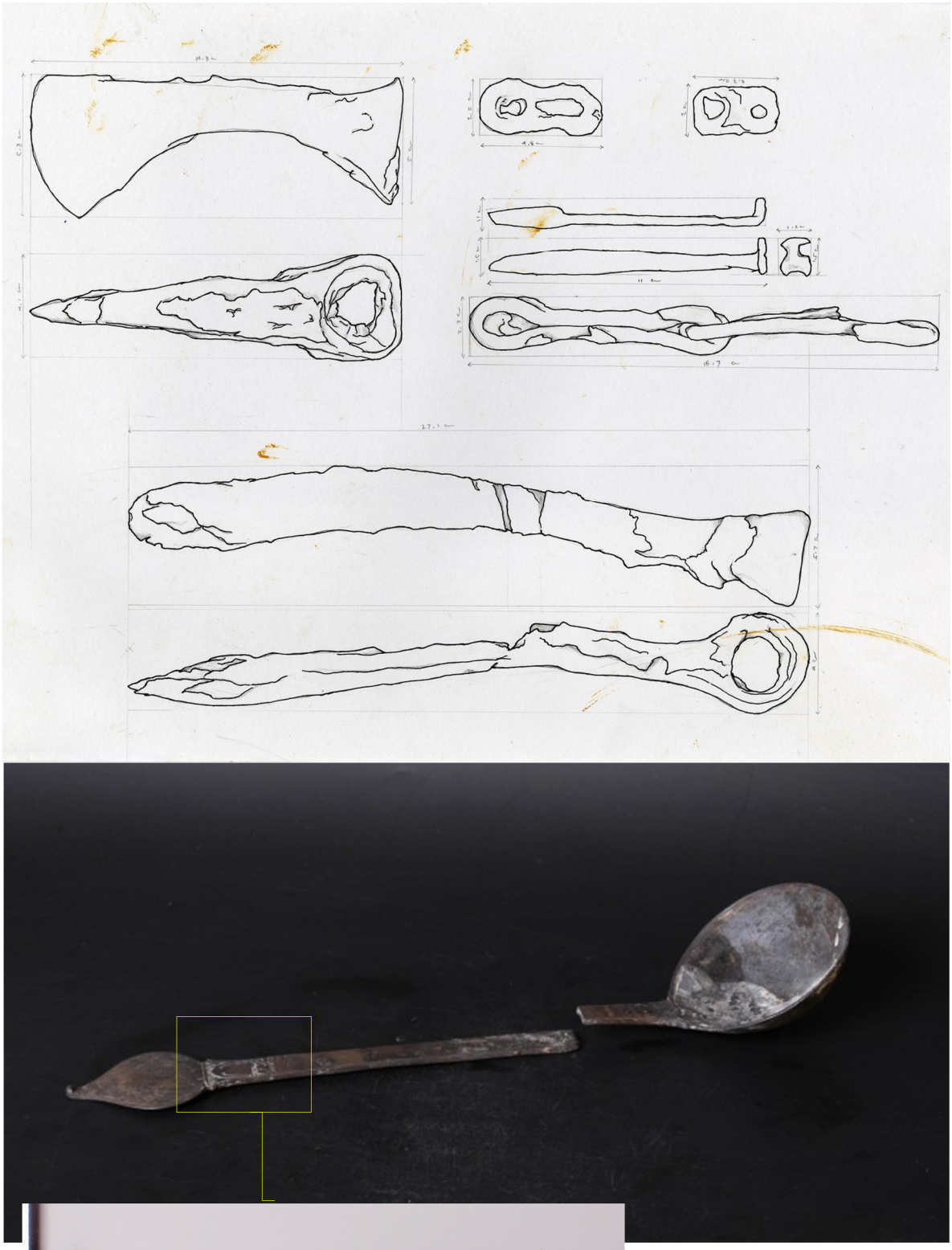


Fig.2.3-93: Metal objects found in scrap-box Art.10383

Fig.2.3-94: Tin ingots stacked in Jakarta storage.

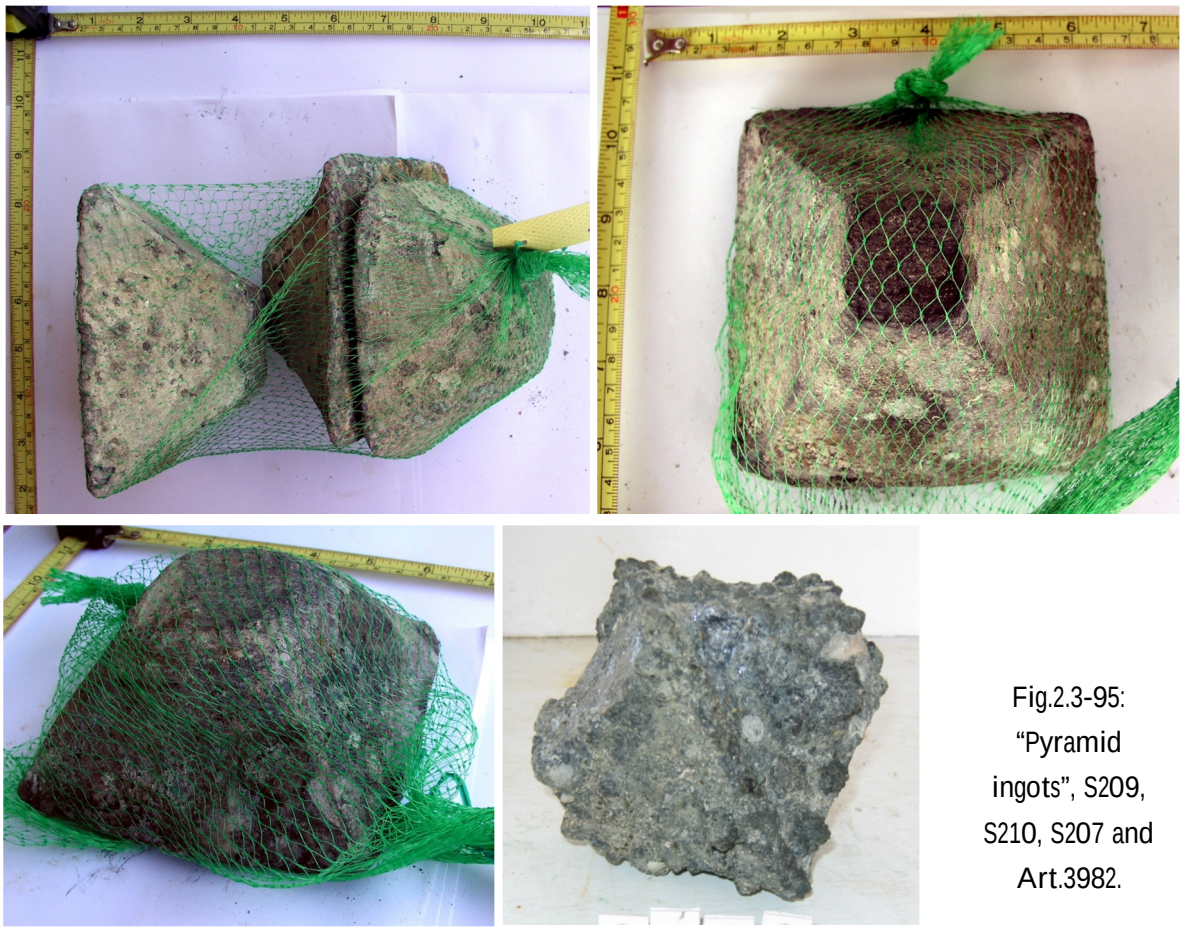


Fig.2.3-95: "Pyramid ingots", S209, S210, S207 and Art.3982.

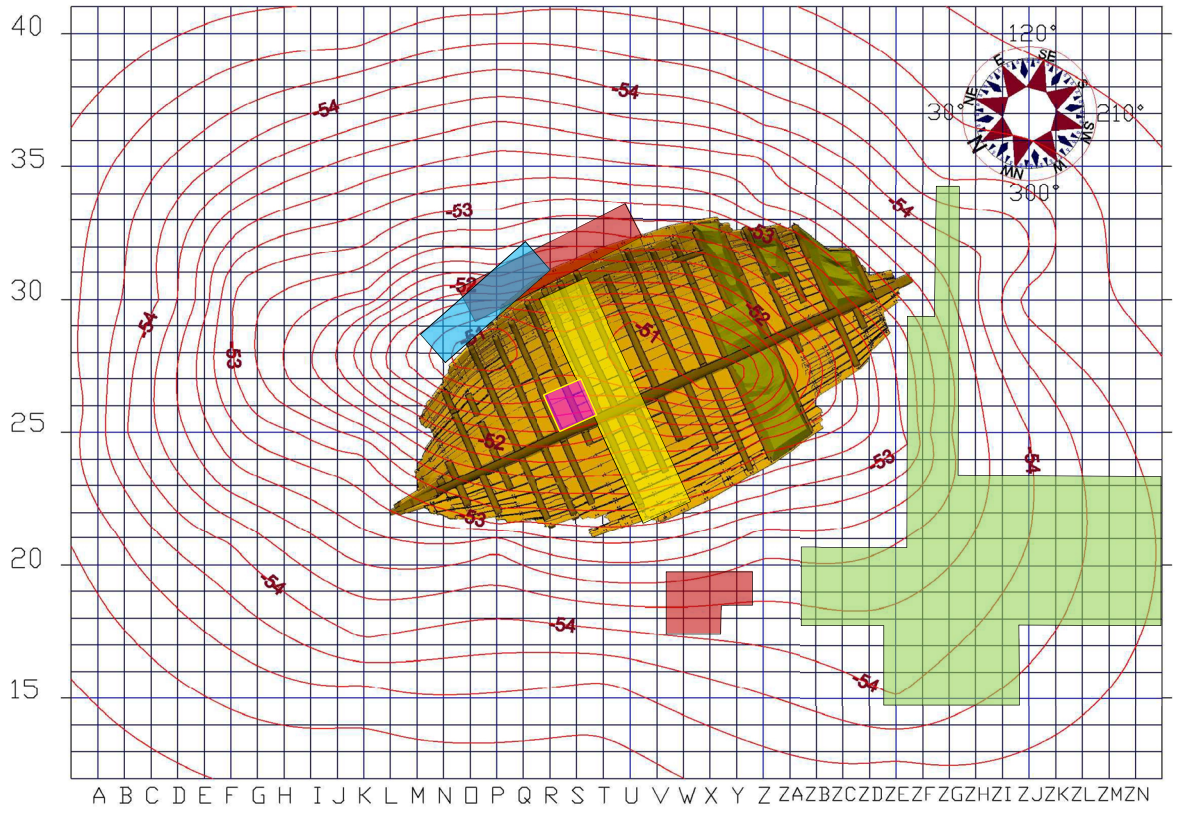


Fig.2.3-96: Position of “pyramid” ingot S397 (gridN), Arts.3982 and 3983 (gridS, transparent red), slabs S453/4 (blue), tin “lanceheads” (green), high grade iron (magenta) and ‘tween deck (yellow).

Fig.2.3-97: Proposed lead ingots.; above, S199.

Fig.2.3-98: “Lanceheads”.

Fig.2.3-99: Concreted weapons and their counterparts on Javanese temples. Above, S354; below left, detail of blacksmith's shop, Candi Sukuh (photo courtesy Lydia Kiefen); below right, Borobudur.

Fig.2.3-100: Insides of a concretion of tightly stacked blades.

Fig.2.3-101: Concreted wrapping material of S264, a pack of dissolved blades or iron bars.

Fig.2.3-102: Fragments of swords.

Fig.2.3-103: “Double-axe” ingot.

Fig.2.3-104: Packs of “double-axe” iron ingots and their packaging.

Fig.2.3-105: Ingots in pack in previous figure.

Fig.2.3-106: *Badik* produced from “double-axe” ingot.

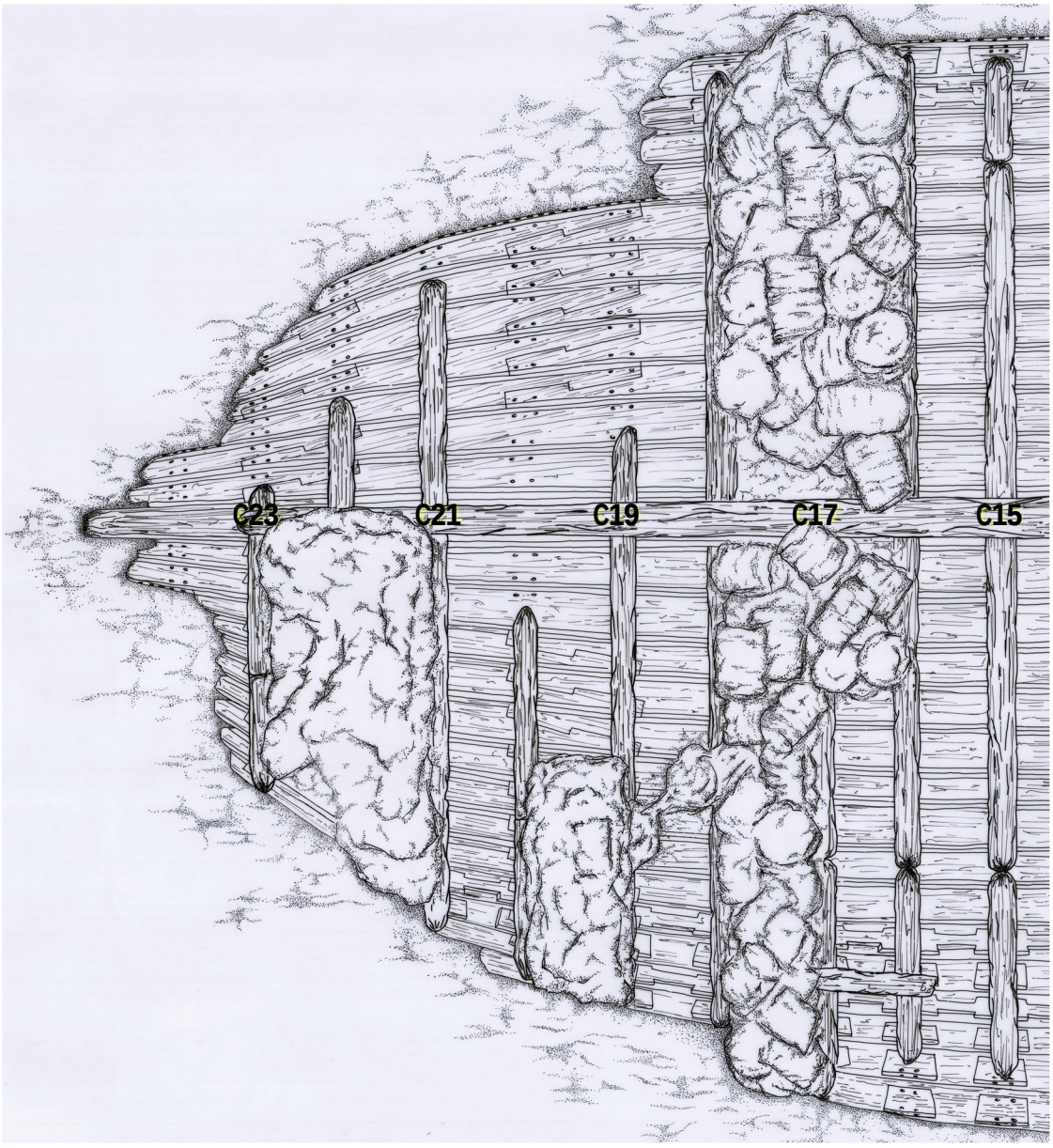


Fig.2.3-107: Artistic impression of the concretions in aftship hold by chief diver D. Visnikar.

Fig.2.3-108: A selection of whetstones.

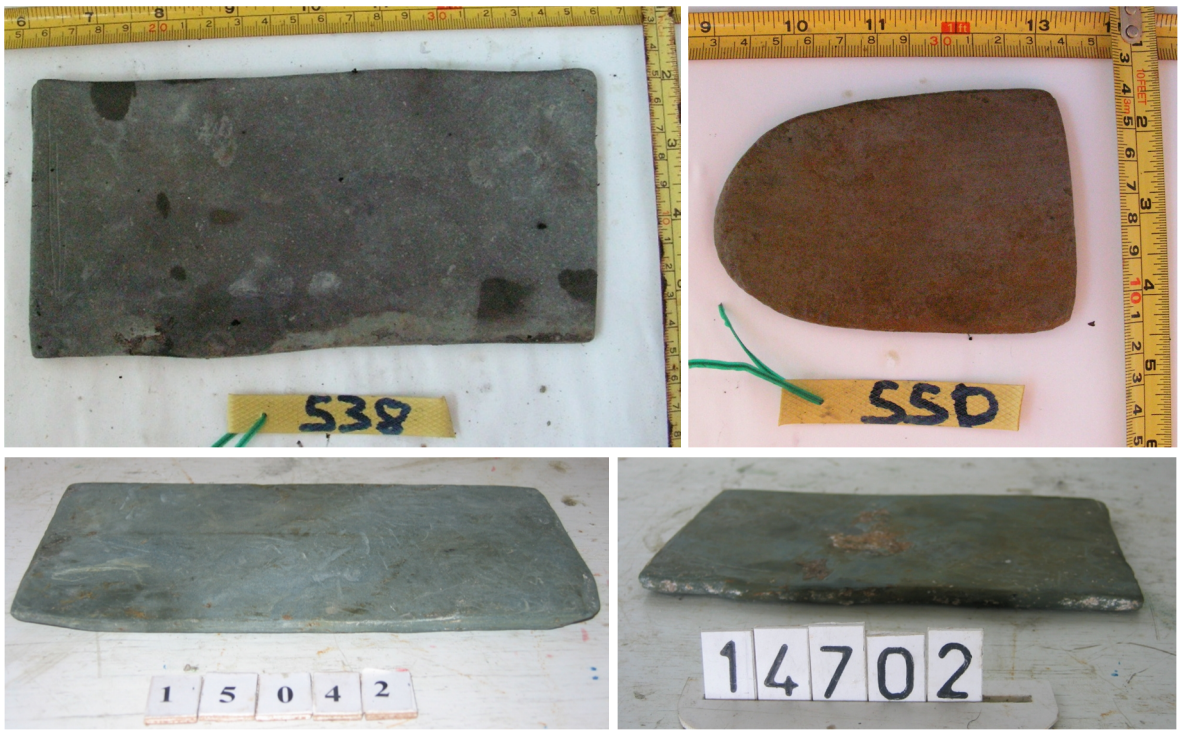


Fig.2.3-109: A selection of ‘slates’.

Fig.2.3-110: Grinding stones (‘metate’) and rollers.

Fig.2.3-111: Grinding stone, roller and stove found on 40608, |Q22|.

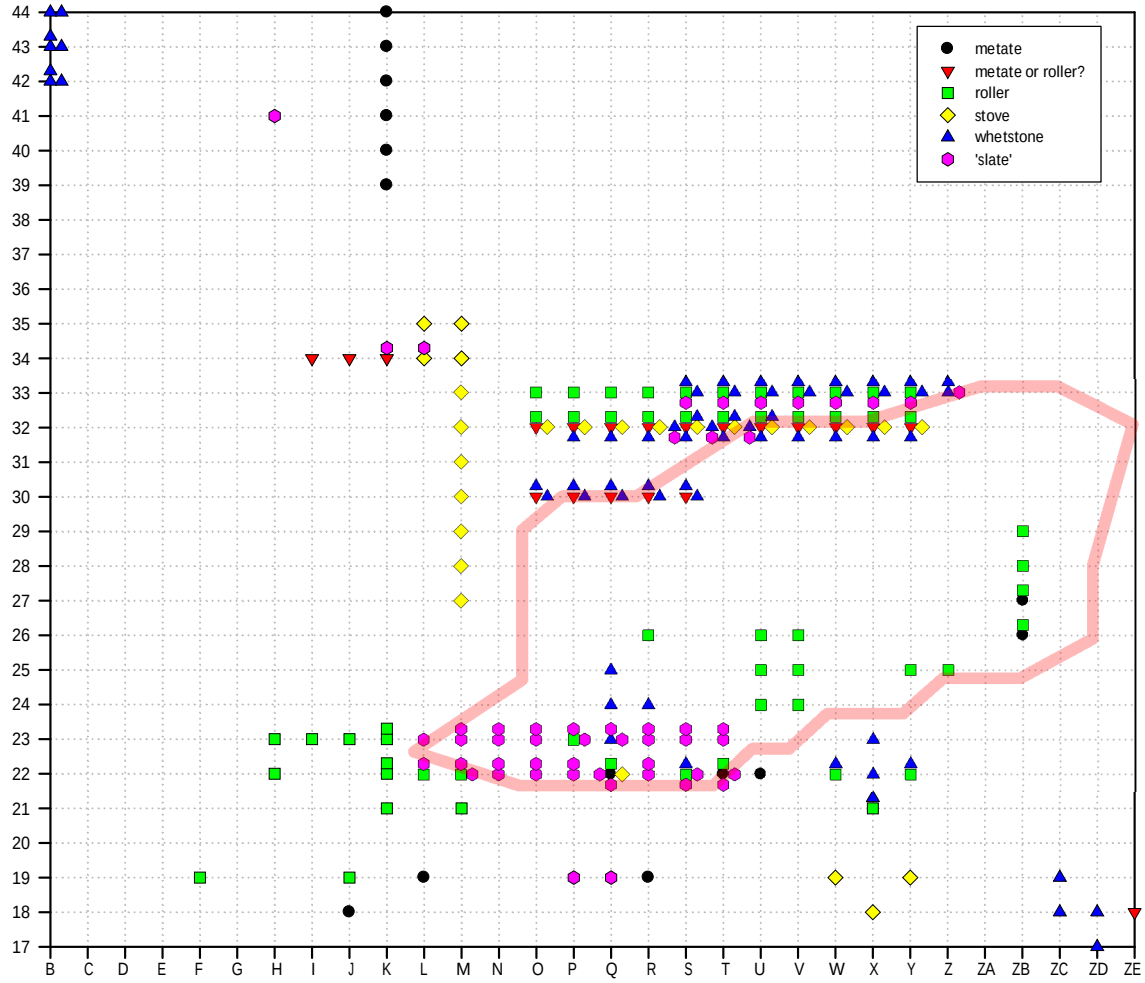


Fig.2.3-112: Corrected distribution of above objects.

Fig.2.3-113:
Manuscript covers.

Fig.2.3-114: Dice; from left to right, Arts.29115, 148338, 149949, and S358.

Fig.2.3-115: A selection of game-pieces (“type 1”). Unnumbered, below, left to right, S451, S326; Art. 49010032, Karawang find

Fig.2.3-116: Proposed "type 2" game-pieces. Above left to bottom right, S363, S431, S491, S531.

Fig.2.3-117: Fragments of decorated ivory. From above left to bottom right, S504, S563, S459, Arts.149953, 153175, 127352.

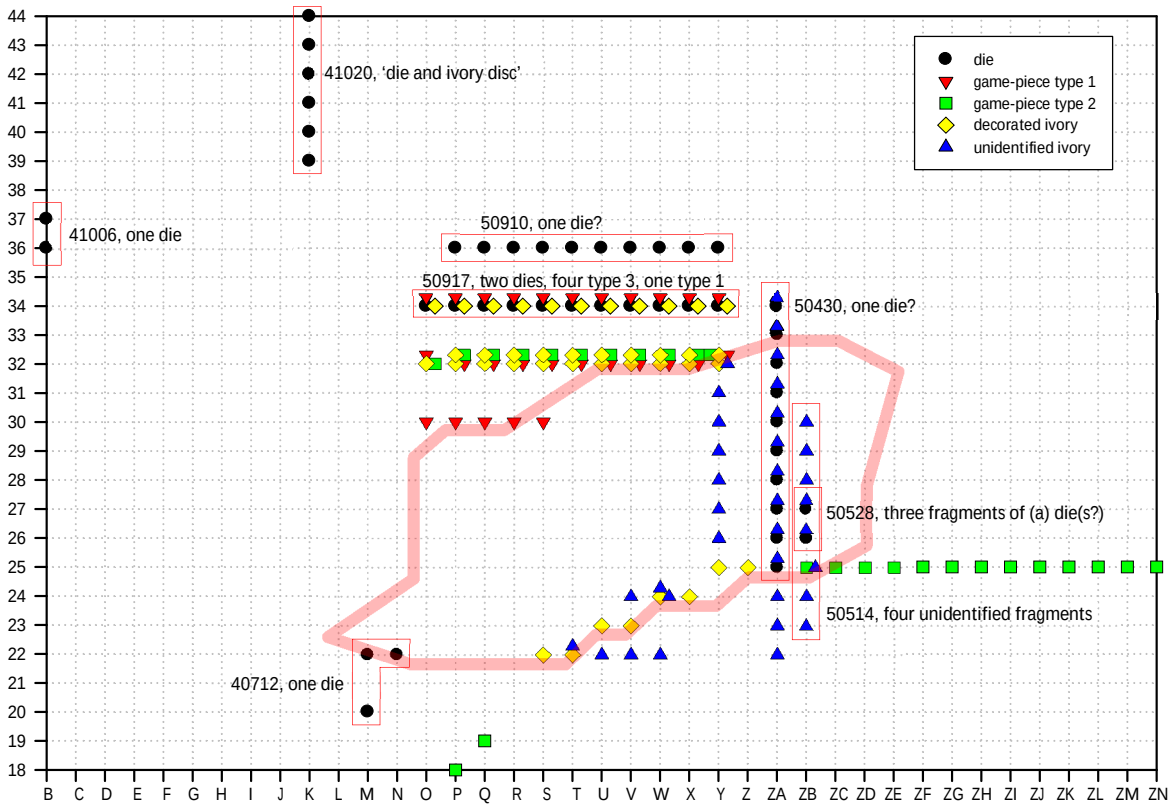


Fig.2.3-118: Distribution of objects proposed to be associated with games and gaming.

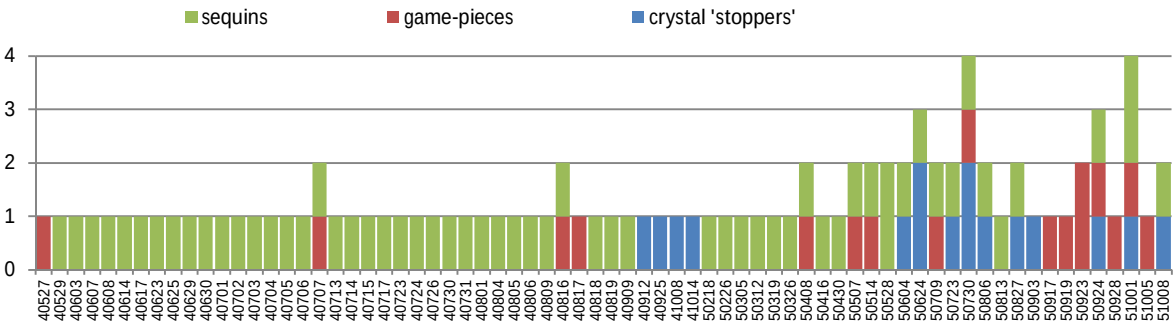


Fig.2.3-119: Records of proposed game-pieces, lapis lazuli discs and crystal 'stoppers' per date.

Fig..2.3-120: Weights, quartz or marble.

Fig.2.3-121: Comparable objects from the Karawang find, Arts.49002334 and 49005660. Note the small indentation in the latter (red circle).

Fig.2.3-122: Weights, carrying a central hole and insets (above; unnumbered, S481); unmarked, S556, left.

Fig.2.3-123: Selected weights. Unnumbered, above to below, S539, S557, S568, S631.

Art.#	weight (gr)
28206	377
138222	859
138223	388
138224	38
B/A 25	782
B/A 51	390

Art.#	weight (gr)
B/A 70	780
B/A 71	791
B/A 72	275
B/A 74	11
B/A 79	79
B/A 80	43

Art.#	weight (gr)
S278	1046
S344	34
S364	9
S456	19
S500	408
S508	22

Art.#	weight (gr)
S519	193
S539	196
S545	34
S557	5
S568	39
S631	11

Fig.2.3-124: Available weights (gr) of weight-stones.

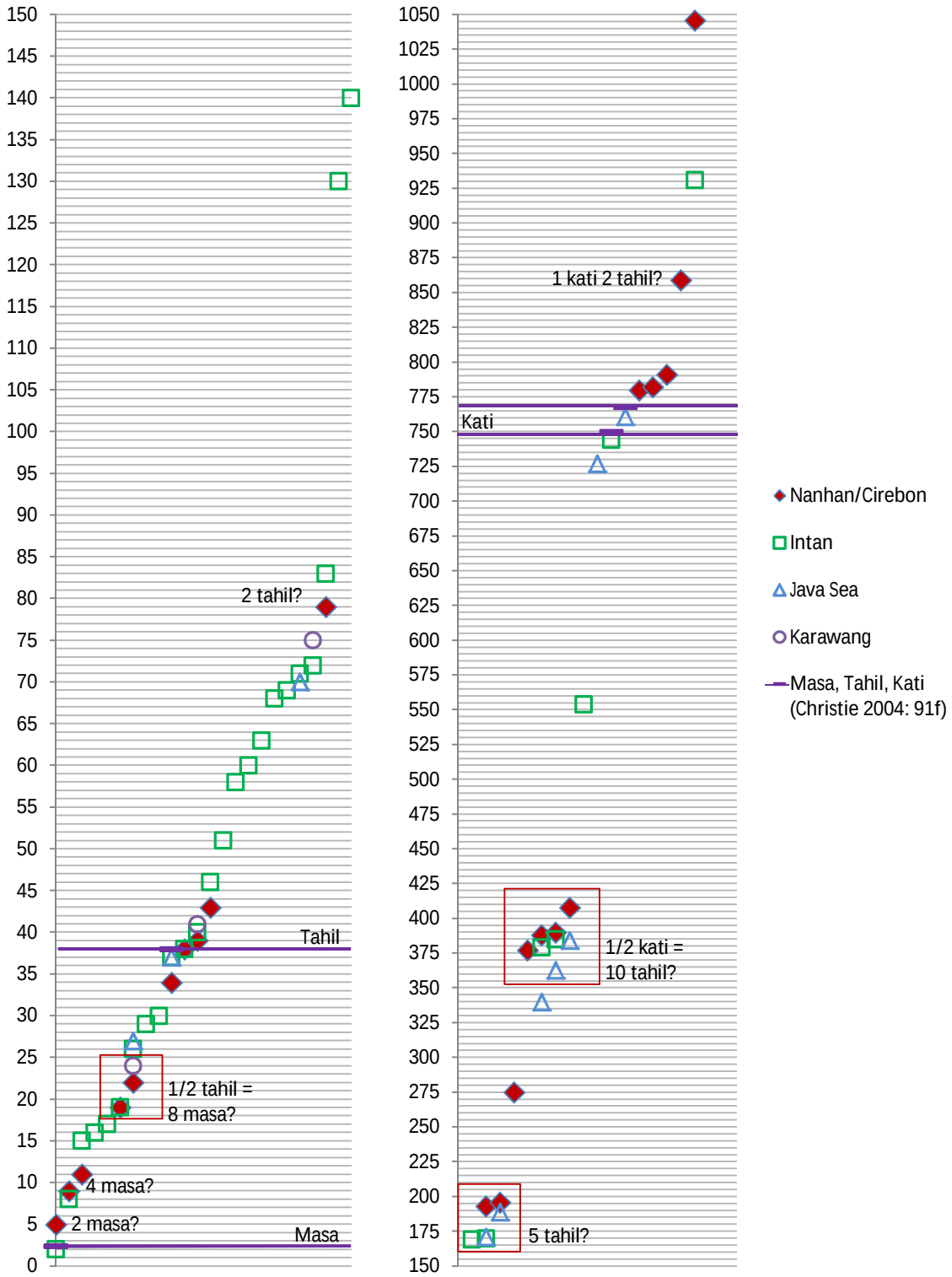


Fig.2.3-125: Values (gr) of the weights found on the Nanhan/Cirebon, Intan and Java Sea wrecks.

Fig.2.3-126: Two scale fragments.

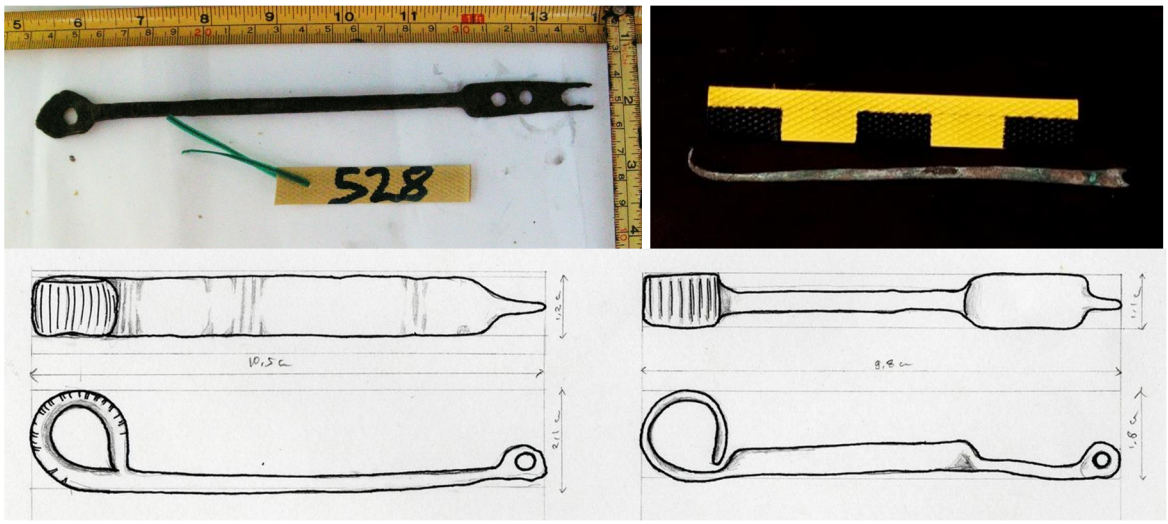


Fig.2.3-127: Proposed remains of scales; unnumbered, S512, WH15, Art.6538.

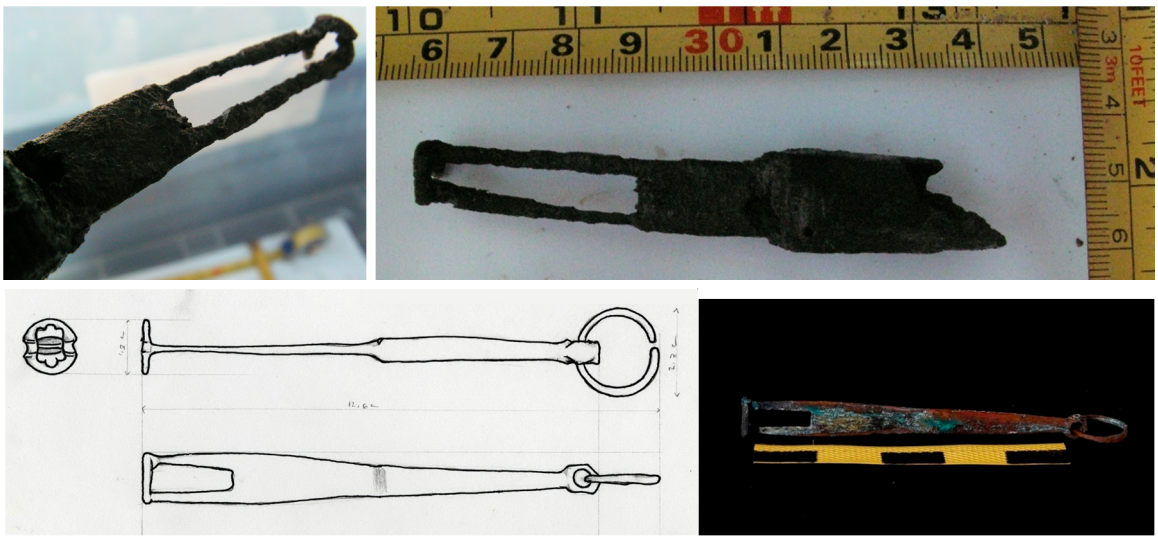


Fig.2.3-128: Proposed scale fragment, S561 (above), and Chinese key, Art.6537.

Fig.2.3-129: “Pointer”, S635.

Fig.2.3-130: Possible arms of small scales, WH82 (left); lamp, Art.171121 and its proposed “hanger”.

Fig.2.3-131: Bronze lamps; left, Art.108233.

Fig.2.3-132: Earthenware lamps; from left to right, Arts.4484, 27362, 127145.

Fig.2.3-133: Plain bronze lamp, Art.108241, above; earthenware lamps, Arts.113645, 134235 and a contemporary (Malacca 2009) lamp of the same type.

Fig.2.3-134: Art.5375.

Fig.2.3-135: Fragments of raw ivory. Unnumbered, Art.3161.

Fig.2.3-136: (Fragments) of unidentified tusks and horns. Unnumbered, above left to below, Arts. 5117, 141217, 141218, 27464, B/A62.

Fig.2.3-137: Molars of large unidentified herbivores. Right, S474.

Fig.2.3-138: S293, jawbone of a carnivorous animal, and molars/jaw of cat (above) and dog.

Fig.2.3-139: Proposed human tooth.

Fig.2.3-140: Fragments of Bones. Above left to below, S348, S381, S382, S414, S419. Cont. ...

Fig.2.3-140: Fragments of Bones. Above left to below, S420, S421, S422, S424, S514, S541. Cont. ...

Fig.2.3-140, cont.: Fragments of Bones. Unnumbered, topmost row, S542.

#	Date/Grid	Remarks
S348	50921/O32:Y32	unidentified
S374	50921/O32:Y32	unidentified
S381	50921/O32:Y32	'If human, but not per se so, one of the bigger joints, perhaps a hip.'
S382	50921/O32:Y32	'Probably a thigh bone, but not human.'
S414	50927/O31:U31	'Cranial bone, almost probably not human.'
S419	50927/O31:U31	'Maybe a human scapula.'
S420	50927/O31:U31	'Not human; maybe related to S422.'
S421	50927/O31:U31	unidentified
S422	50927/O31:U31	'Not human; possibly part of joint.'
S424	50927/O31:U31	unidentified
S514	51001/P32:Y32	'A strange sharp rim on one side; maybe a human scapula.'
S541	51004/S32:Z33	'A rib; definitely not human.'
S542	51004/S32:Z33	'Not human.'
S591	found on deck	'Possibly a right human tibia.'
S592	found on deck	'Not human.'

Fig.2.3-141: Proposed identifications of bones, Lisbeth Mieras, January 2006.

Fig.2.3-142: Samples of proposed aromatics. S290; found on deck of the salvage vessel. Cont. …

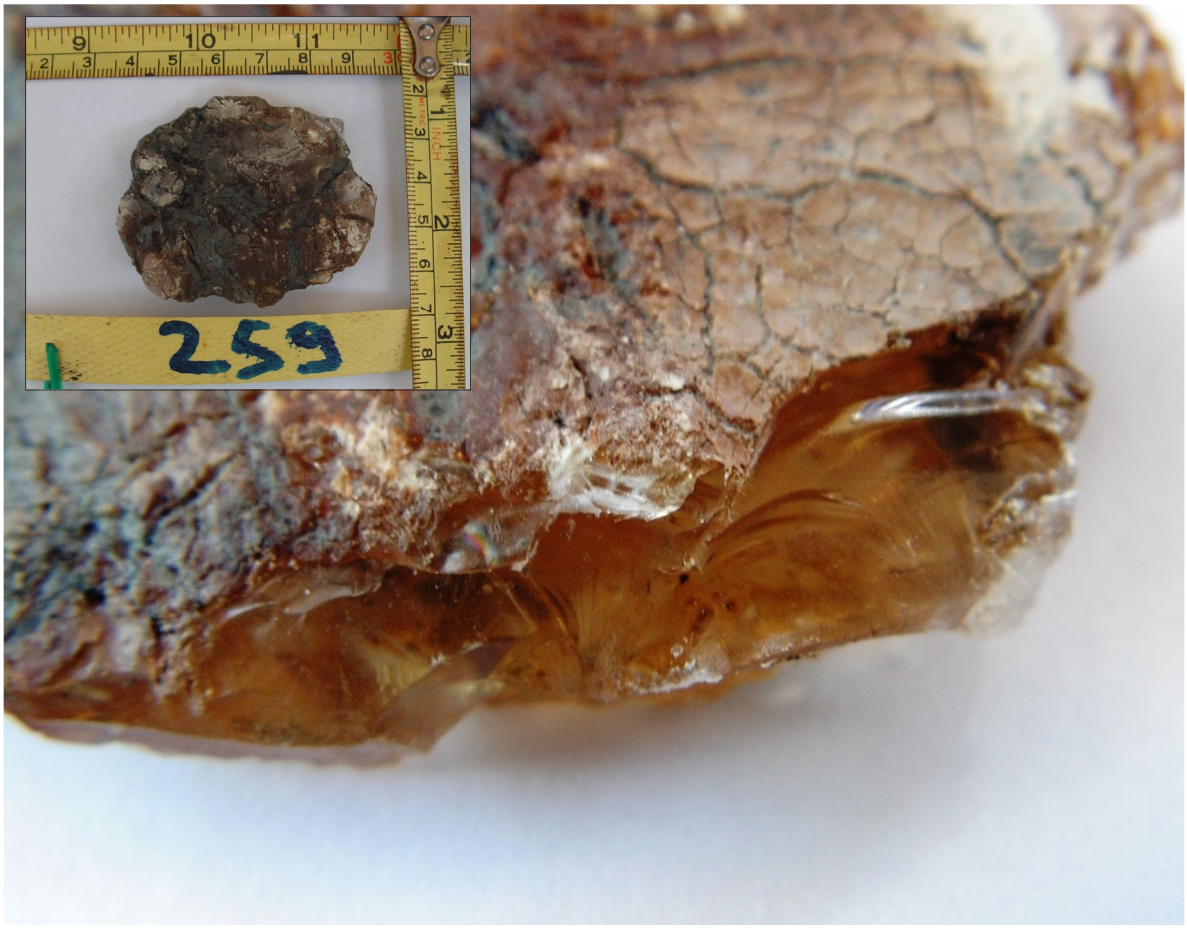


Fig.2.3-142: Samples of proposed aromatics. S259, found on 50901, |Z33:ZC33|; S339, 50920, |O33:Y33|.

Cont. …

Fig.2.3-142: S351, 50921, |O33:Y33|; S477, found on deck of salvage vessel. Cont. …

Fig.2.3-142, cont.: S566, 51006, under aftship; S618, found in warehouse.

Fig.2.3-143: Above, S257; below, S515.

Fig.2.3-144: Orpiment.

Fig.2.3-145: Petrol-smelling powder and its packings, S260

Fig.2.3-146: Minerals, both found on deck of the salvage vessel. Cont. …

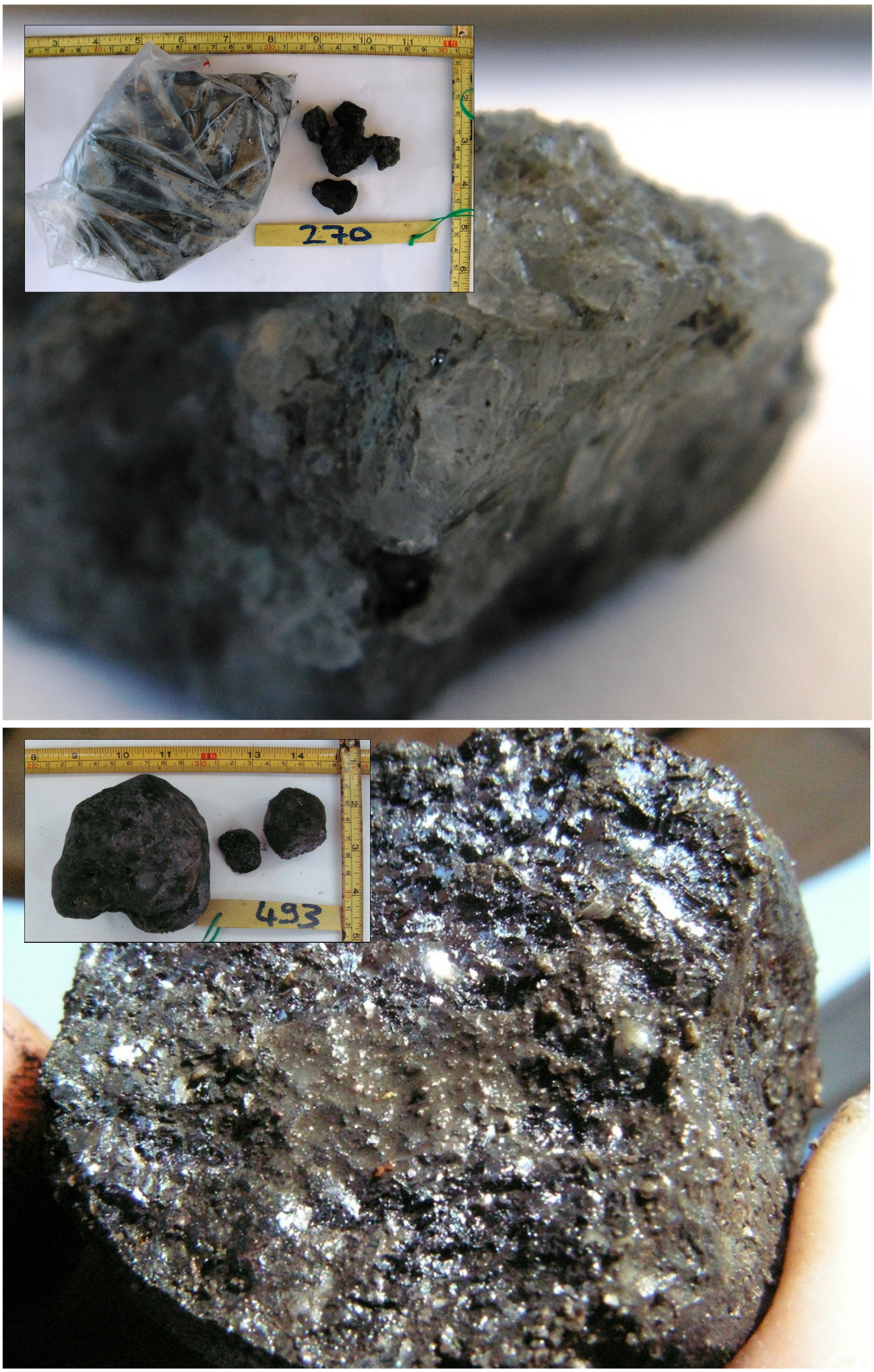


Fig.2.3-146: Minerals. s270, considerable amounts in lower hull; S493, found on deck of salvage vessel.

Cont. …

Fig.2.3-146, cont.: Minerals. Found on deck of the salvage vessel.

Fig.2.3-147: S494, a shard of Persian ceramics.

3 The Ship

Panel 1.53, Borobudur

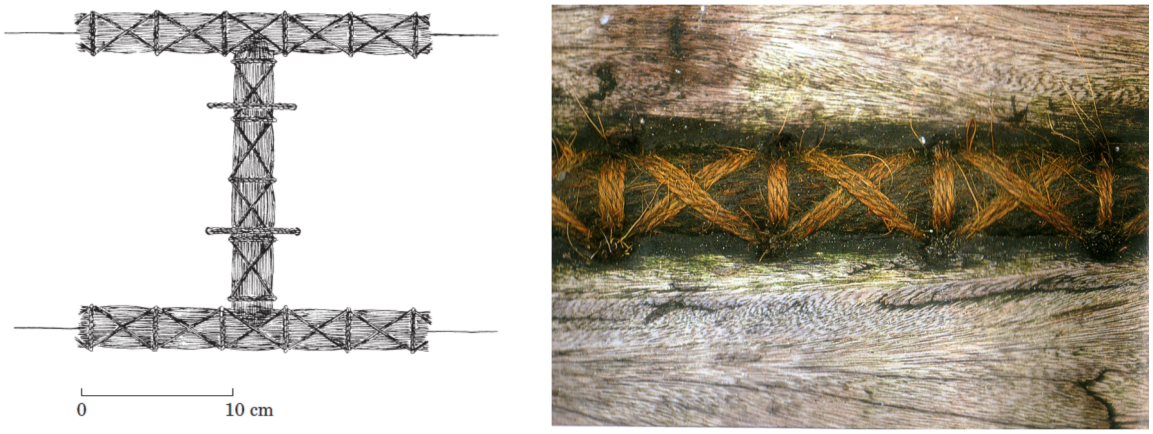


Fig.3.1-1: Sewn plank seams; left: Flecker's reconstruction of the sewing of the ninth-century Bilitung wreck (2000: 207); right: present sewing method, Kerala (Osamu 2000: 34).

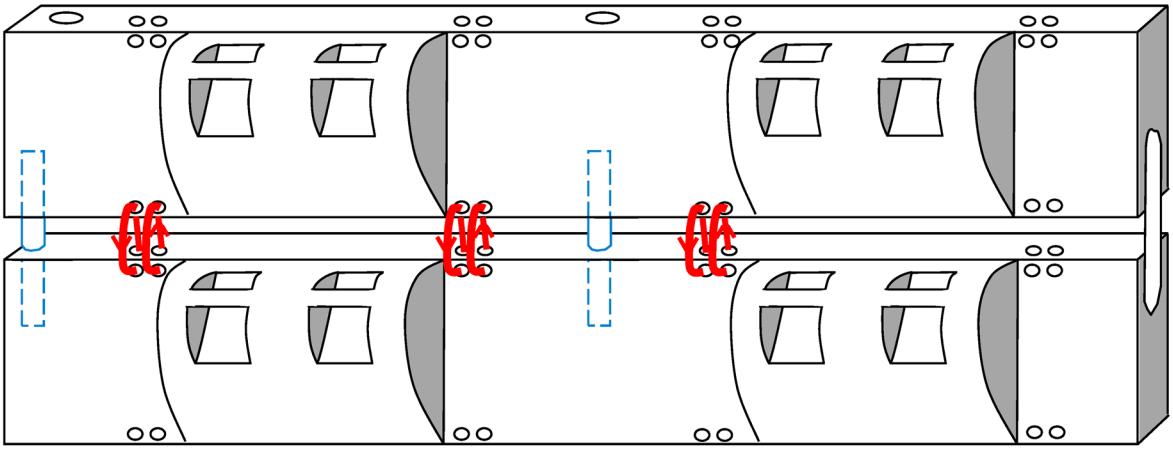


Fig.3.1-2: Schematic representation of plank fastenings of Pontian boat (Liebner 2005b: 70, following Manguin 1985: 334); stichings, red; dowels, blue.

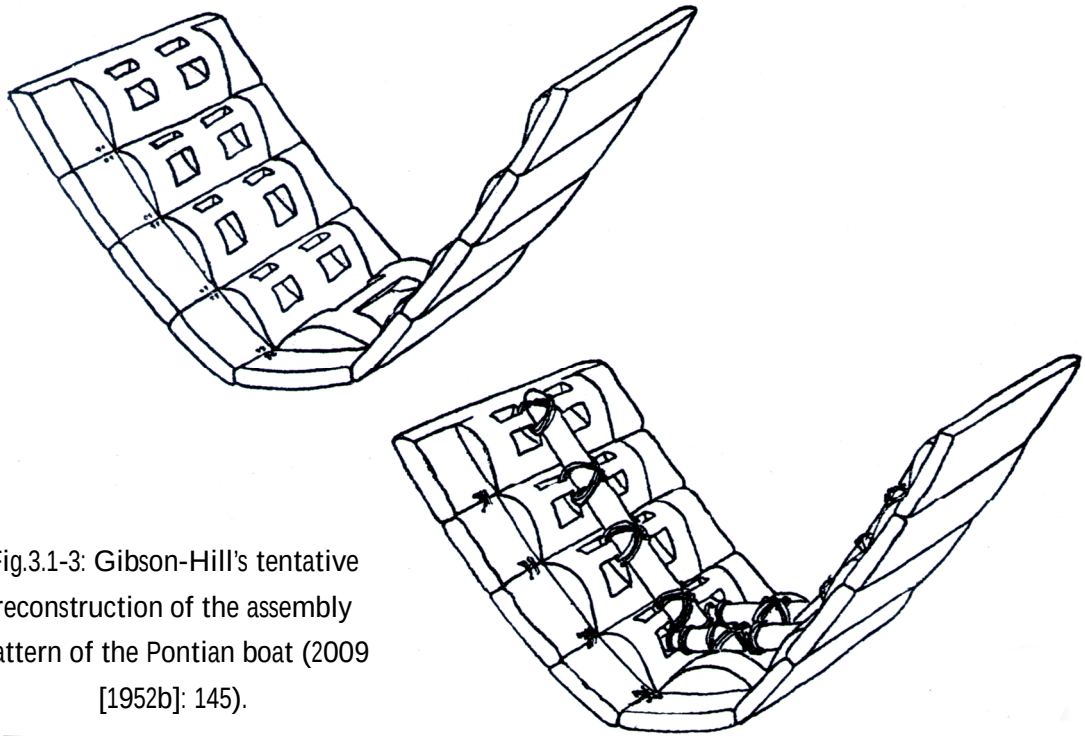
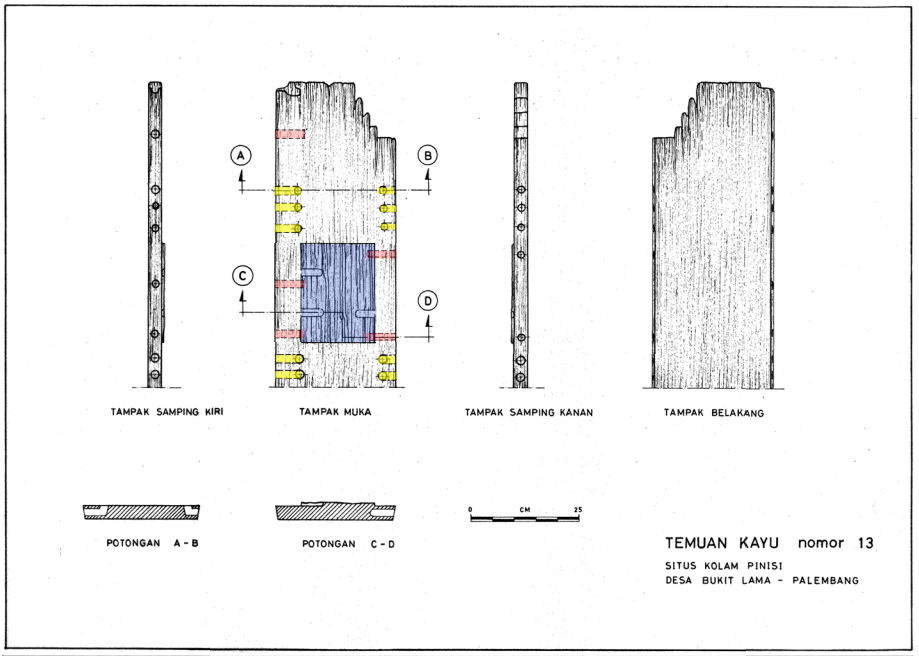


Fig.3.1-3: Gibson-Hill's tentative reconstruction of the assembly pattern of the Pontian boat (2009 [1952b]: 145).

Fig.3.1-4: Plank finds of Sambirejo, seventh to eight century (photos courtesy P-Y. Manguin). Holes for stitchings marked in transparent yellow.



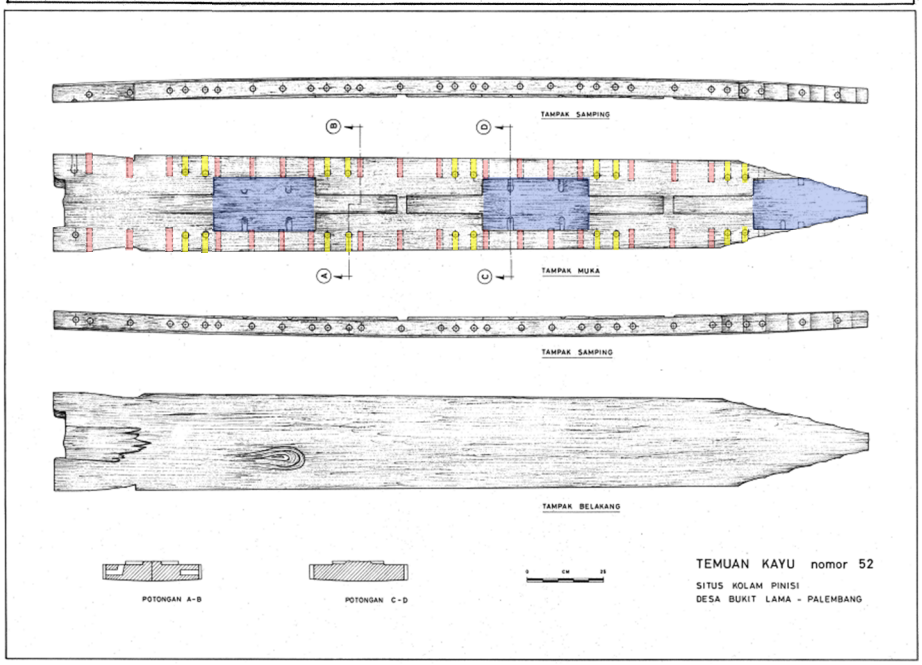


Fig.3.1-5: Two of the Kolam Pinsi planks, fifth to seventh centuries. Transparent blue: lugs for lashing frames; red: dowelholes; yellow: holes for stitching cord.

Figures 3.1-6: The Punjulharjo wreck, 2009. Photo courtesy P.-Y. Manguin.

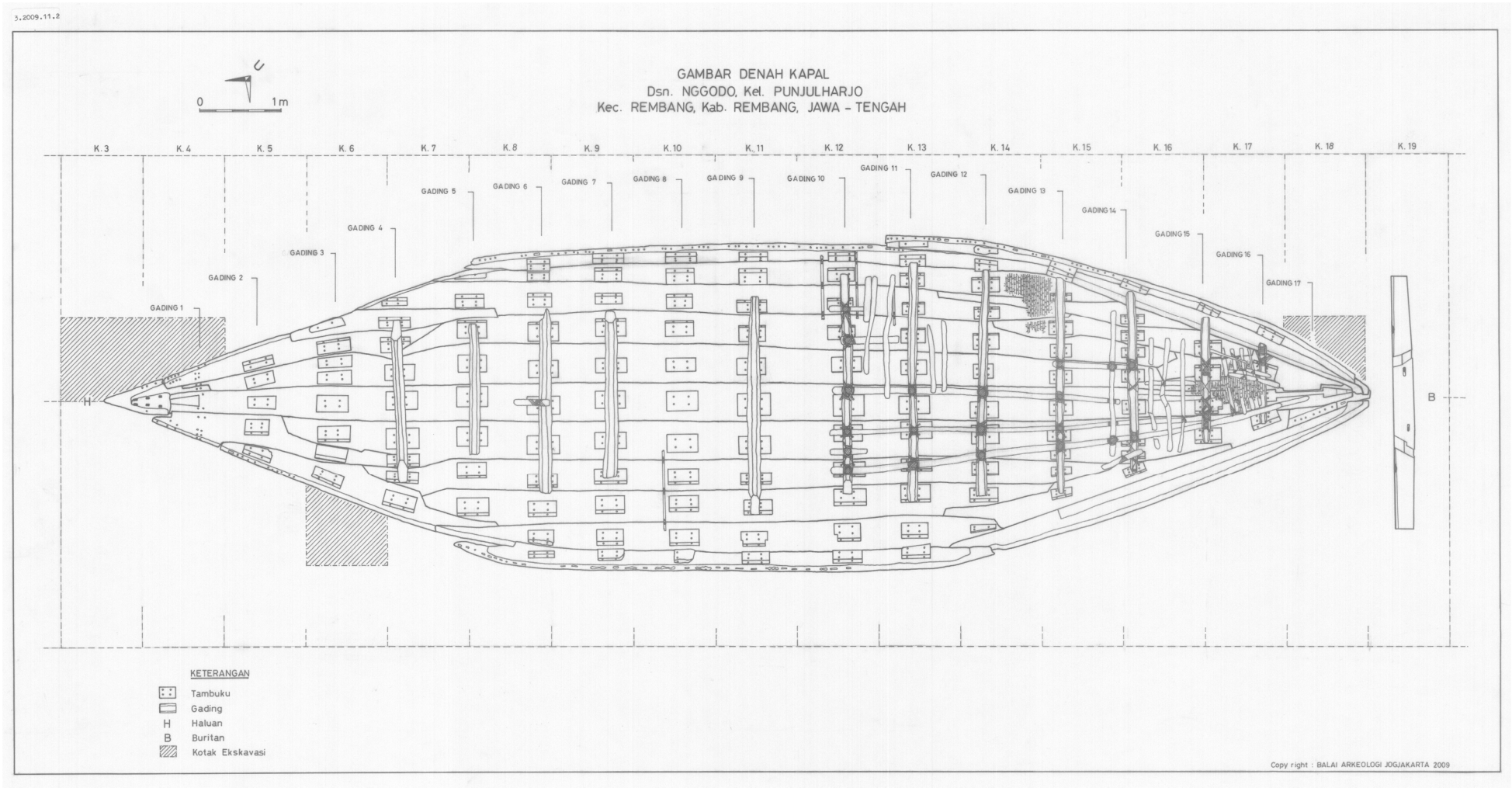


Fig.3.1-7: Plan of Punjulharjo vessel; courtesy Balai Arkeologi Yogyakarta.

Fig.3.1-8: Starboard planking of Punjulharjo ship; holes for stitchings marked in transparent yellow. Photo (2008) courtesy Zainab Tahir / Imam Fauzi.

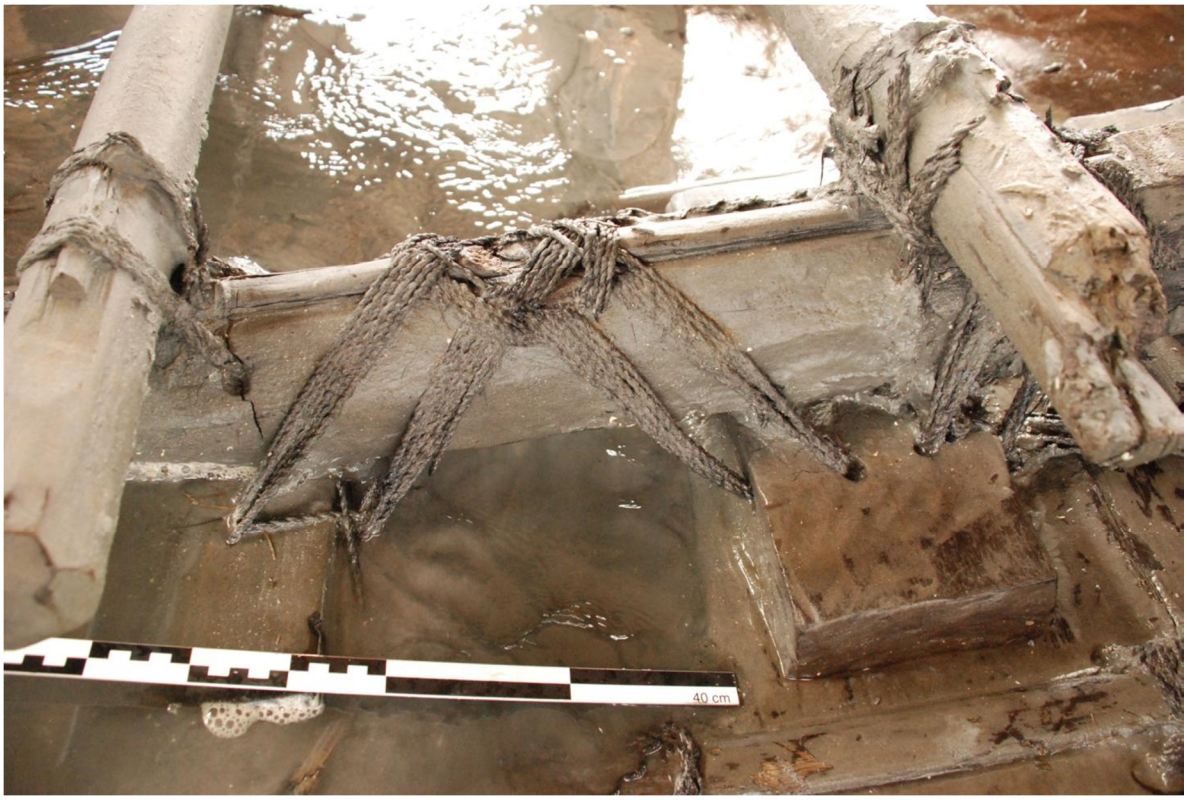


Fig.3.1-9: Lashings of frames and stringers in Punjulharjo ship, running over two strakes; photo courtesy P.-Y. Manguin.

Fig.3.1-10: Bow-wing of Punjulharjo ship, transparent yellow; comp. Figs.3.2-14, 3.2.i-7. Photo courtesy Zainab Tahir / Imam Fauzi.

Fig.3.1-11: Plank fragment from Paya Pasir, twelfth to thirteenth century. Photo courtesy P-Y. Manguin.

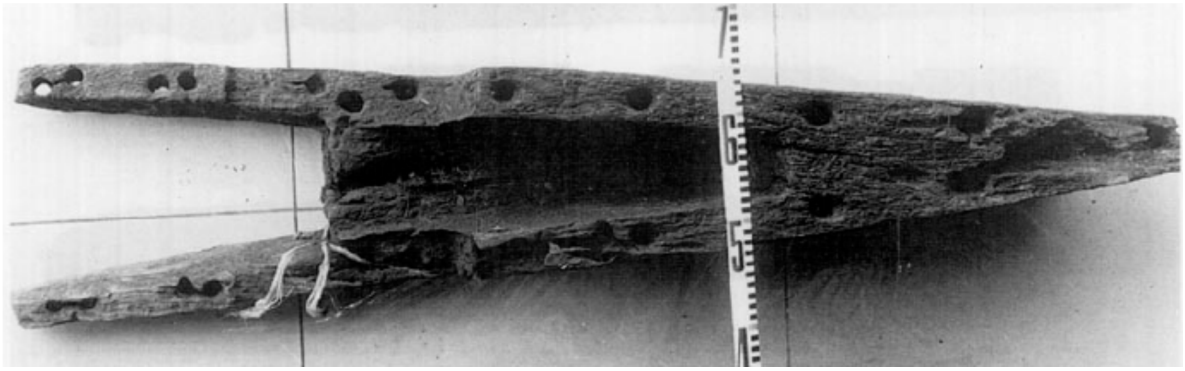


Fig. 3.1-12: Bow-wing of the Butuan 5 boat (Green at al. 1995: 183).

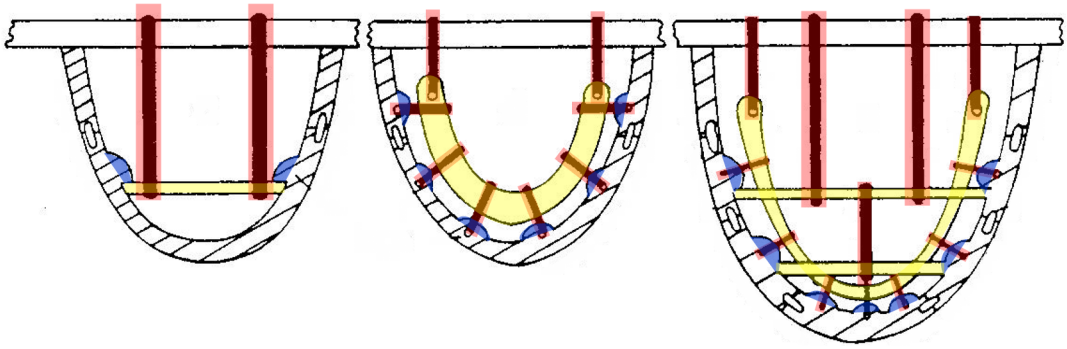


Fig. 3.1-13: Tentative assemblies of built-up dugouts, after Horridge 2006: 148. Lugs marked in transparent blue; lashings in red; thwarts/frames in yellow.

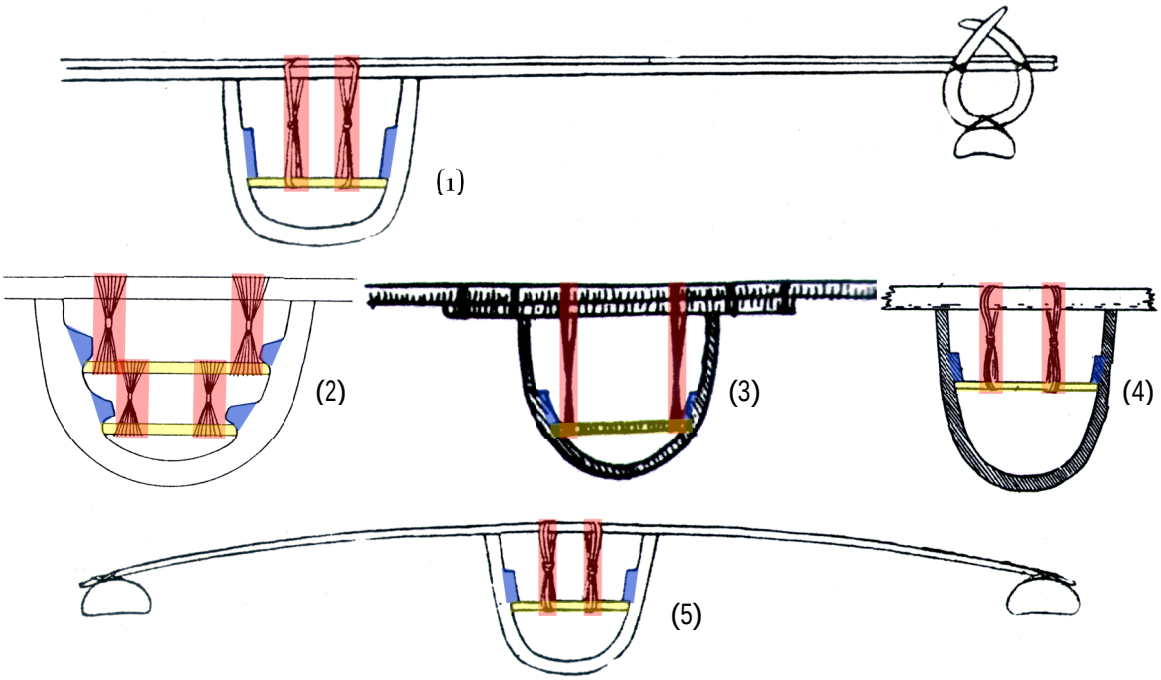


Fig. 3.1-14: Ethnographic records of assemblages of outrigger beams onto (built-up) dugout canoes. (1),(5), Buru, Manado, Hornell 1920: 60, 80; (2), Tobelo, Frederici 1912: 240; (3), Lombok, Neyret 1976: 210; (4) Hawaii, Haddon and Hornell 1935: 11. For colour legend see Fig.3.1-11 above.

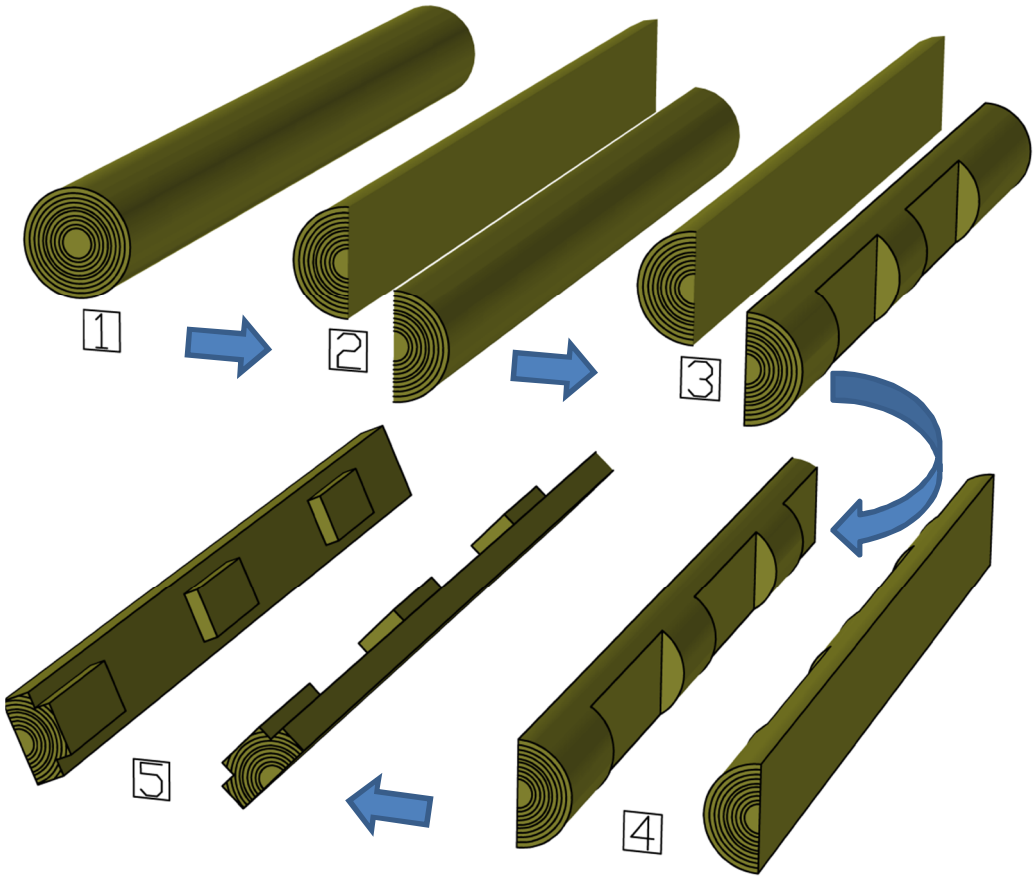


Fig.3.1-15: Making a pair of planks with *tambuku*-lugs.

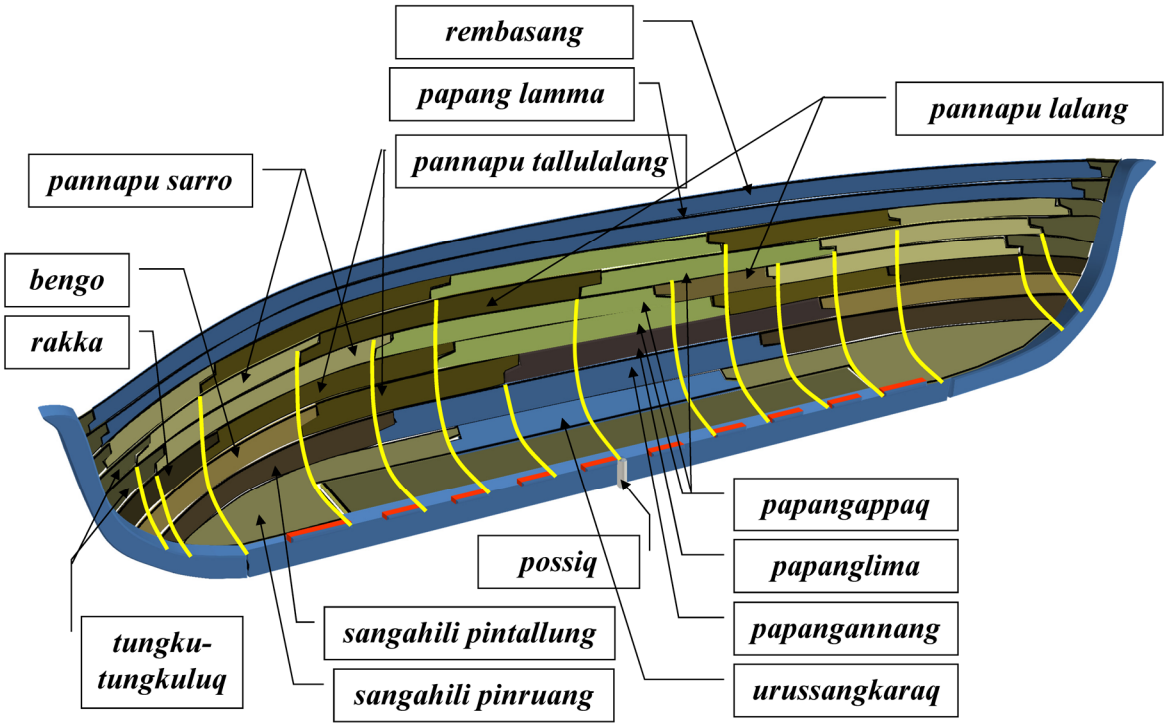


Fig.3.1-16: Plank placements in the *tatta tallu*, 'three-times cut', plank pattern, Tana Beru, South Sulawesi, halfmodel of starboard side (Liebner 2004: Slide 39). *Tambugu* (Konjo term for 'lugs') marked in red on the keel; yellow lines note plank lengths. Where not noted otherwise, same colours indicate planks with same names.

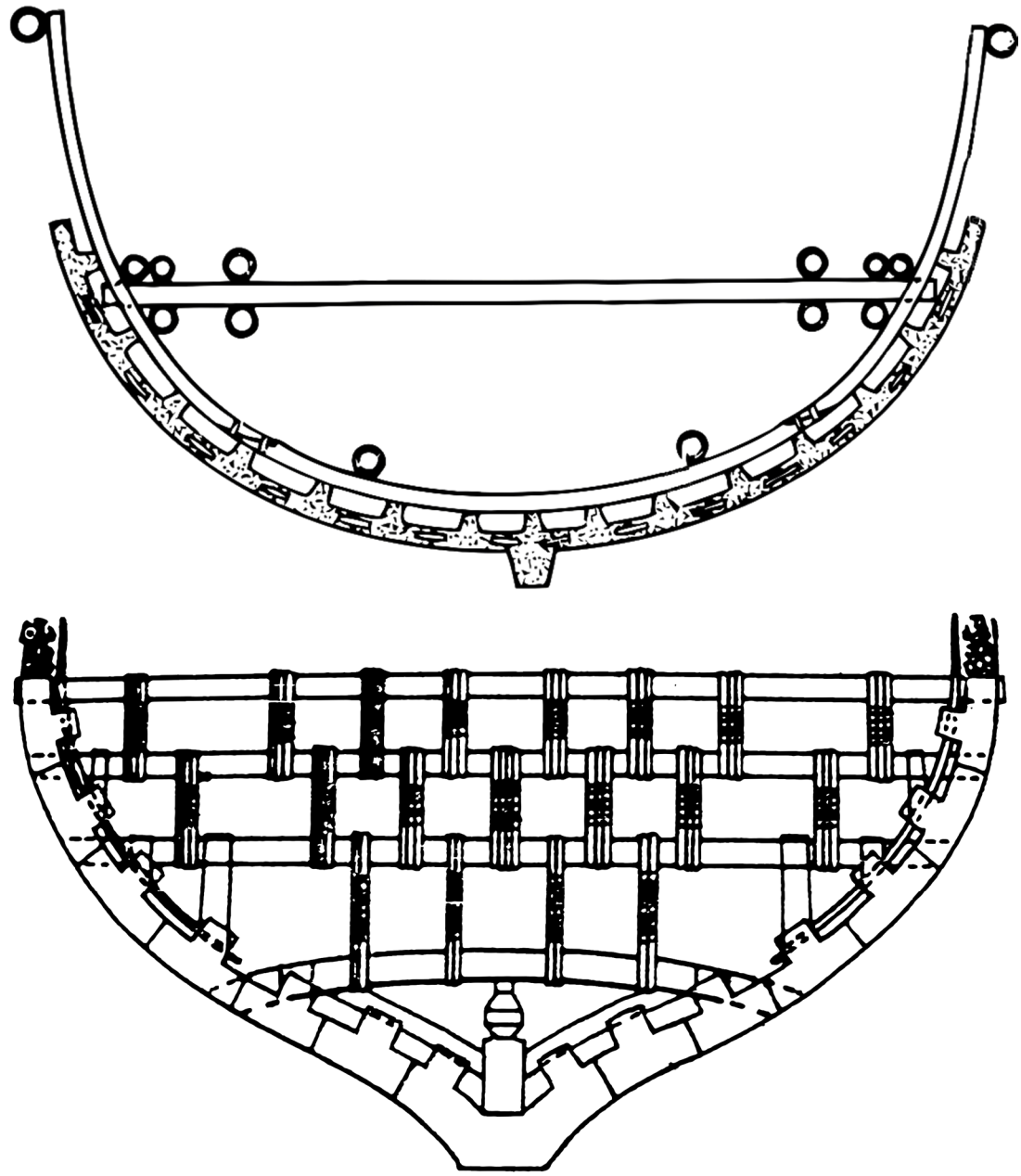


Fig.3.1-17: Internal strenghthenings in the contemporary *belang* of the Aru islands, East Indonesia (above, after Horridge 1978: 27), the *kawuru kara* of West Sumba (centre, Nooteboom 1941: 8), and a small abandoned fishing craft seen in Toli-Toli, North Sulawesi (below, Liebner, 2004: Slide 46; photo taken in 1989).

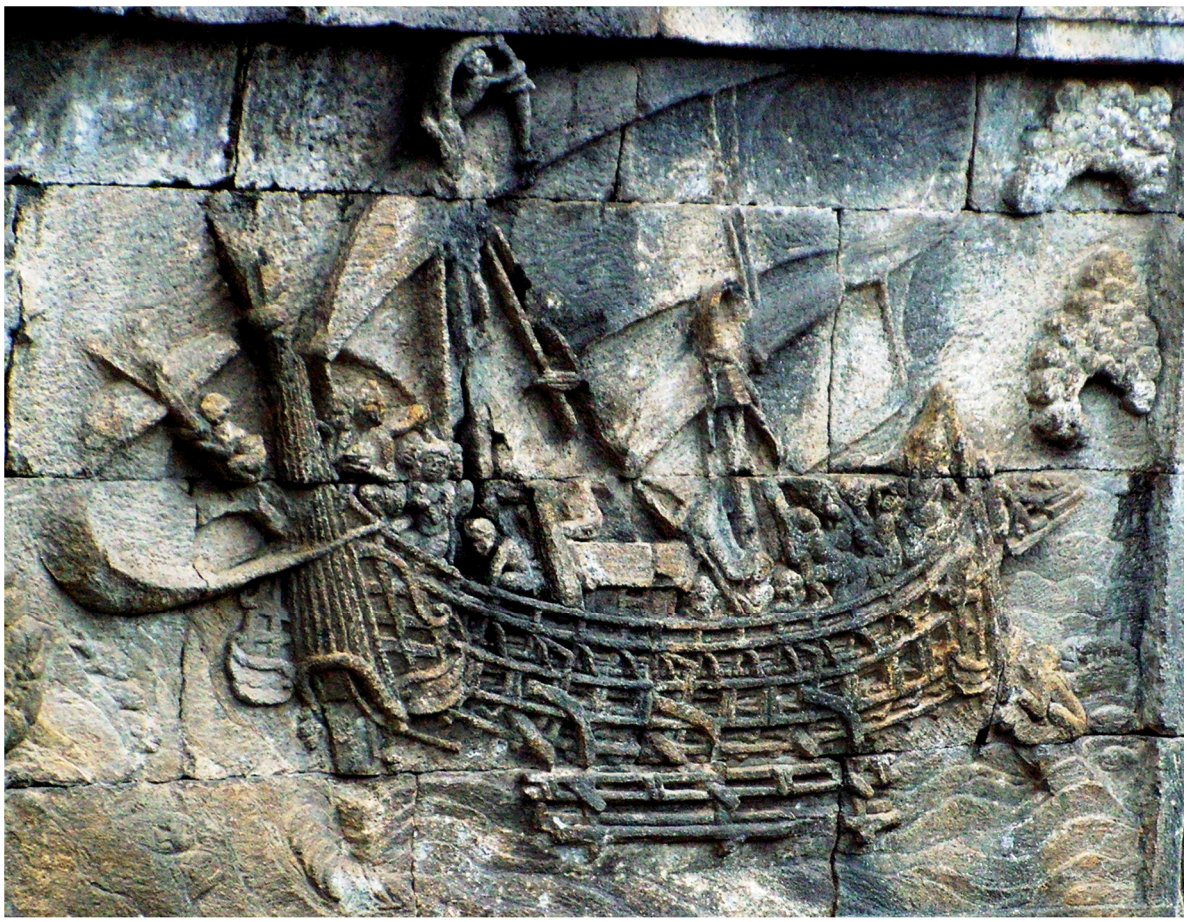


Fig.3.1-18: The famed ‘Borobudur ship’, panel 1.86.

Fig.3.1-19: … and its copy, 1.88. Note the ‘repetition of the anecdotal event taking place on the rudder blade’ (van Erp 1923: 23).

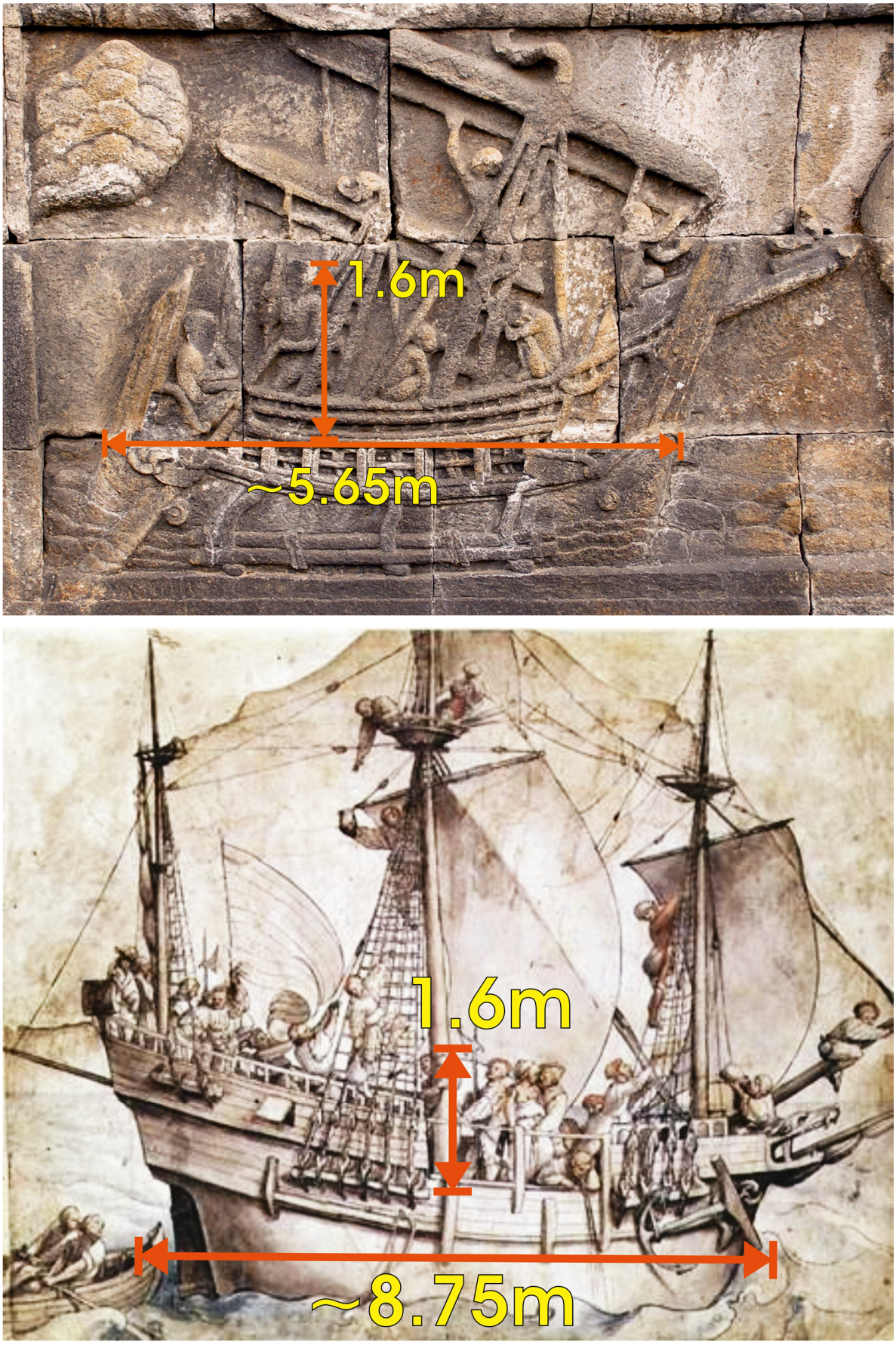


Fig.3.1-20: Exaggerating size for dramatic effects. Above: Borobudur, panel 1.53; below: Holbein d.J., 'Schiff mit Matrosen …', *ca.*1532. Note the apparently seasick passengers.

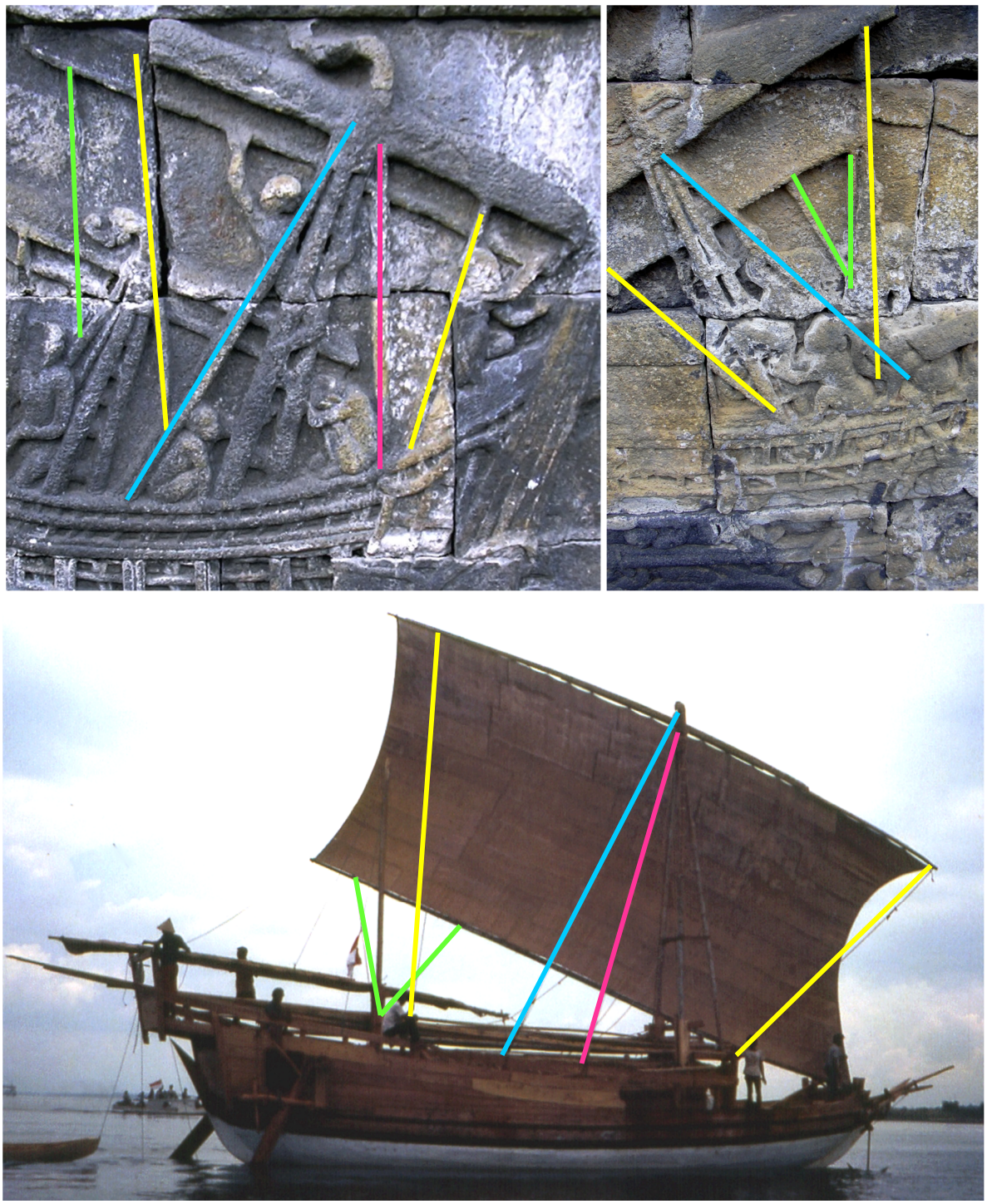
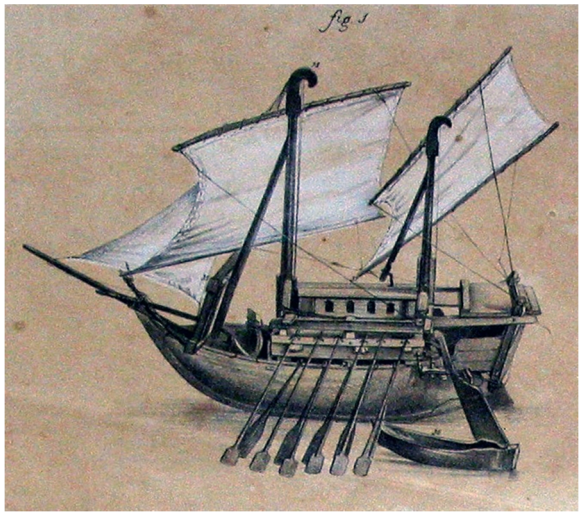
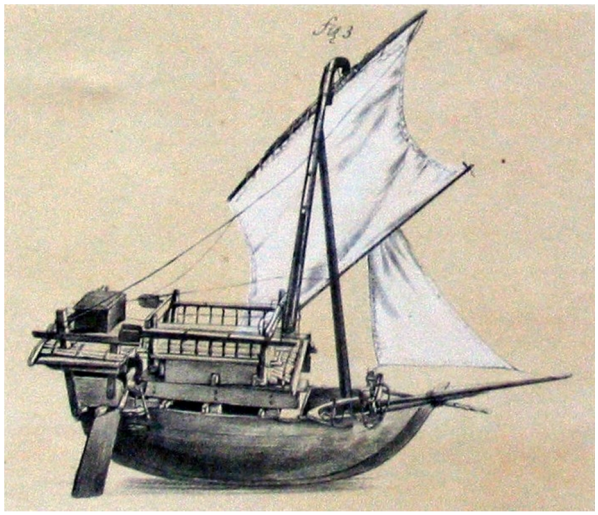


Fig.3.1-21: Rigging details. Above left, foremast, panel 1.86; right, mizzen, 1.108; centre, *Hati Marege*, a replica of a South Sulawesi *padewakang*; below, block for halyard on mainmast of 1.108. Vangs, yellow; stays, magenta; halyard, light blue; sheet, green.

Fig.3.1-22: Lateral rudders. Above left, Lebak Kranji find, c. seventh century; right, Sambirejo, idem. (photos courtesy P.-Y. Manguin); centre left, pleasure boat, Borobudur, panel 1.115; centre right, modern *perahu layar motor*, 1989; below, replica of 1950s *pinisiq*, 1989.





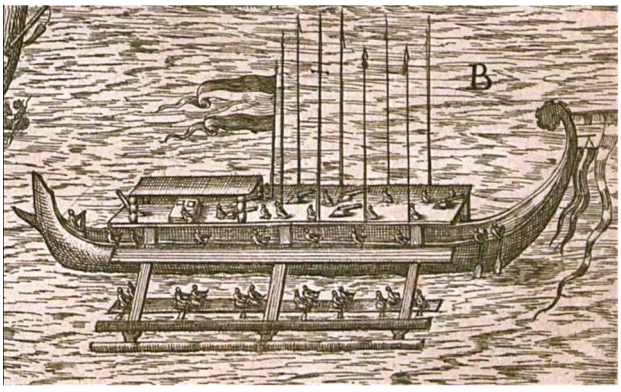


Fig.3.1-23: Upperworks on Borobudur ships and historic representation and models. Above, panel 2.41; centre, models of a privateer and a vessel for cattle transport, mid-nineteenth century (Matthes 1859b: Plate 17 Fig.1 and Plate 16 Fig.3); left, a *kora-kora* (Arthus, de Bry and de Bry 1601: Plate XVI).

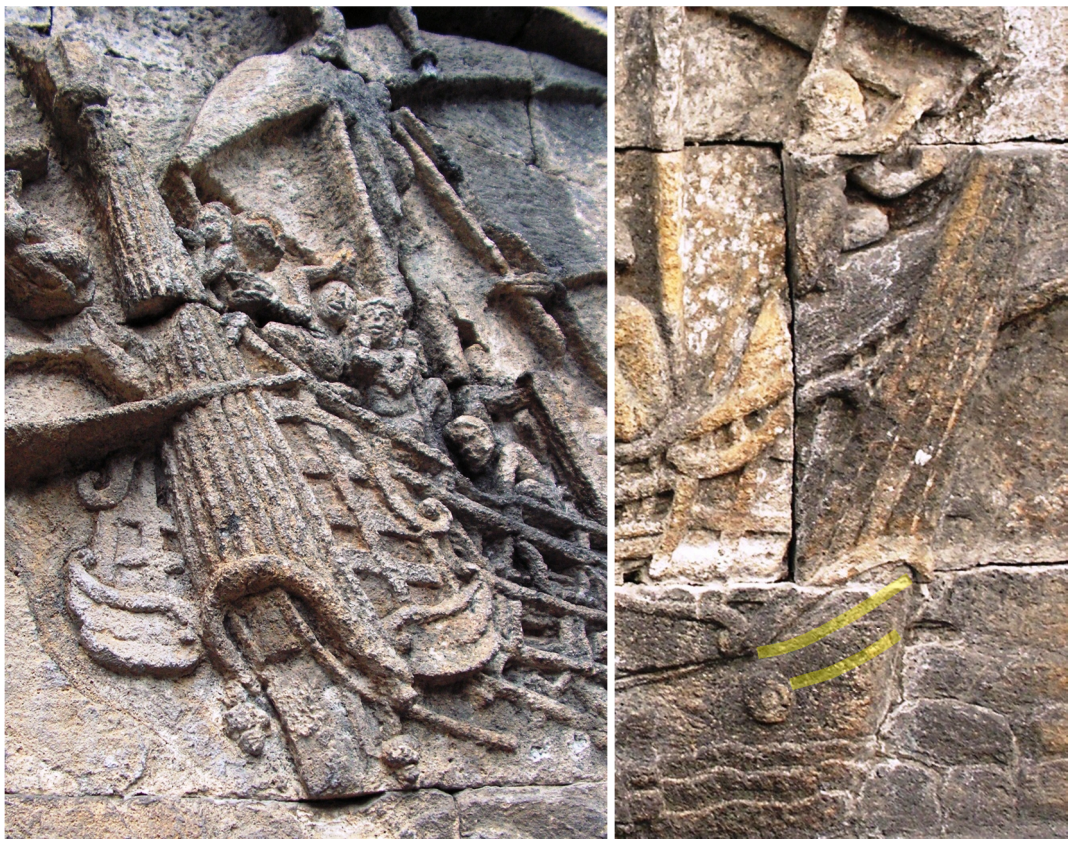


Fig.3.1-24: Bows and bow-screens on panels 1.86 and 1.53; plank seams on 1.53 in transparent yellow.

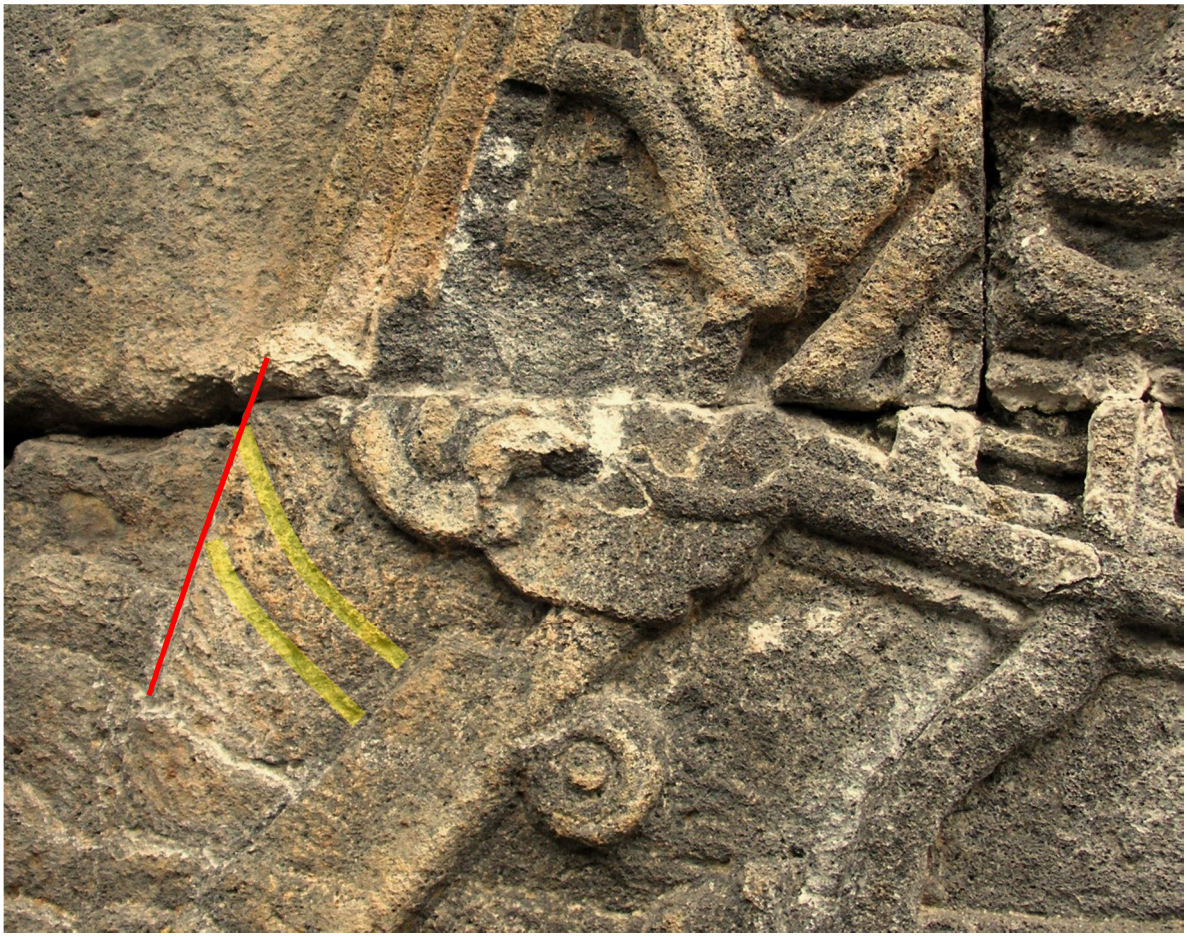


Fig.3.1-25: Stern of ship on panel 1.53; plank seams, transparent yellow; end of hull, red.

Fig.3.1-26: From above left to bottom right, panel B1.193, Borobudur; a vessel on the sheet on the Indian Ocean, Miller Atlas; drawing of the ship on panel 1.86, Borobudur (Heide 1928: 348); drawing of the vessel in cave #2 at Ajanta, James Walton Collection (http://hdl.handle.net/10019.2/649).

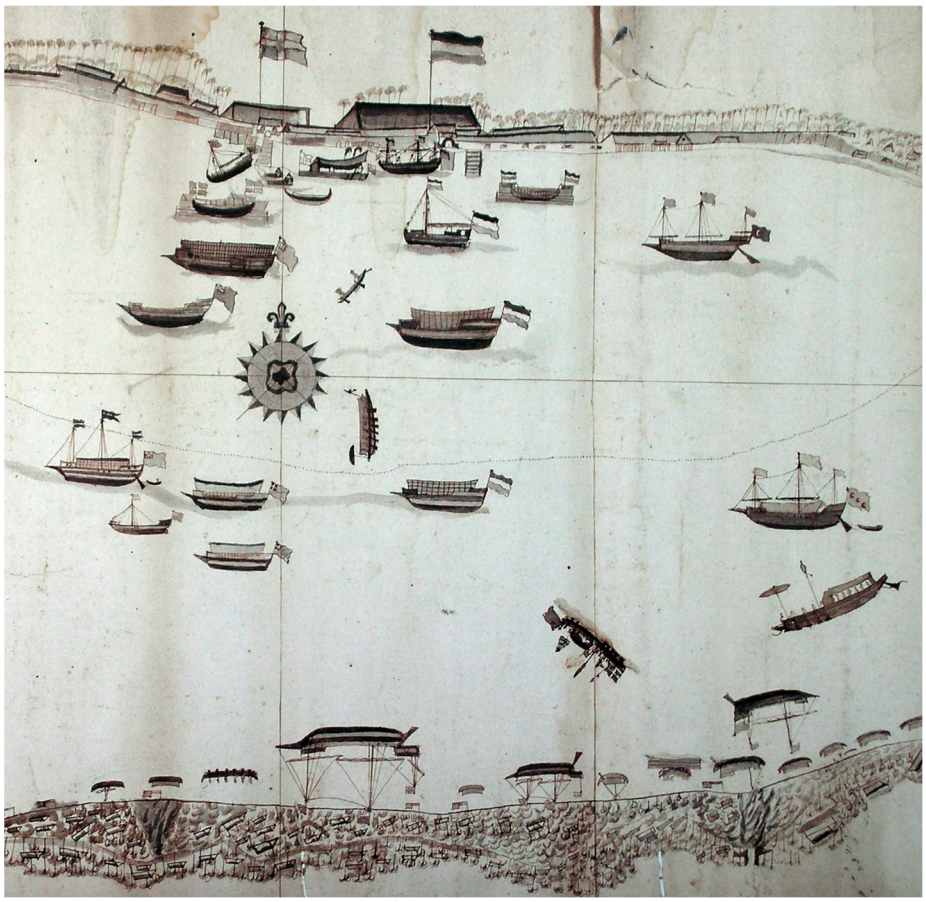


Fig.3.1-27: Anonymous map of Jambi, c. 1670-80 (de Rover and Brommer [eds.] 2008: 256).

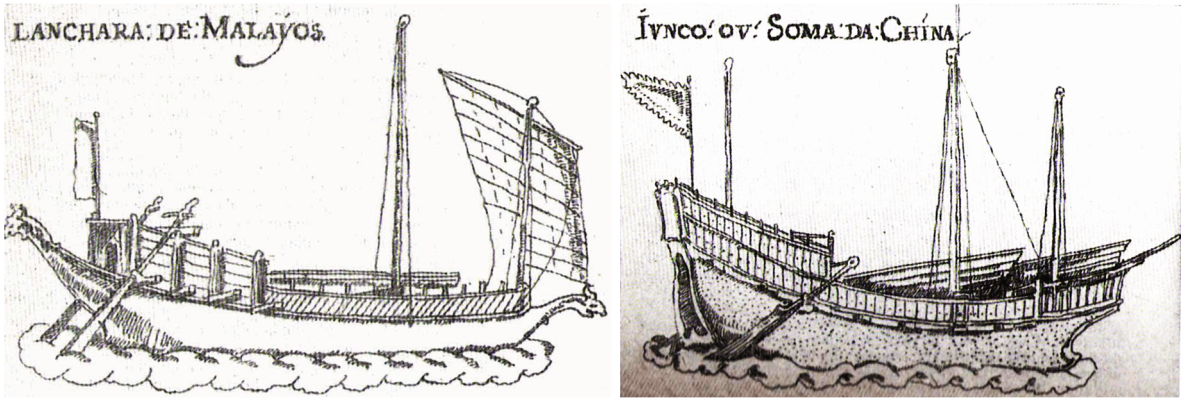


Fig.3.1-28: Eredia's drawings of ships at Malacca; scans courtesy Sejarah Melayu Library.

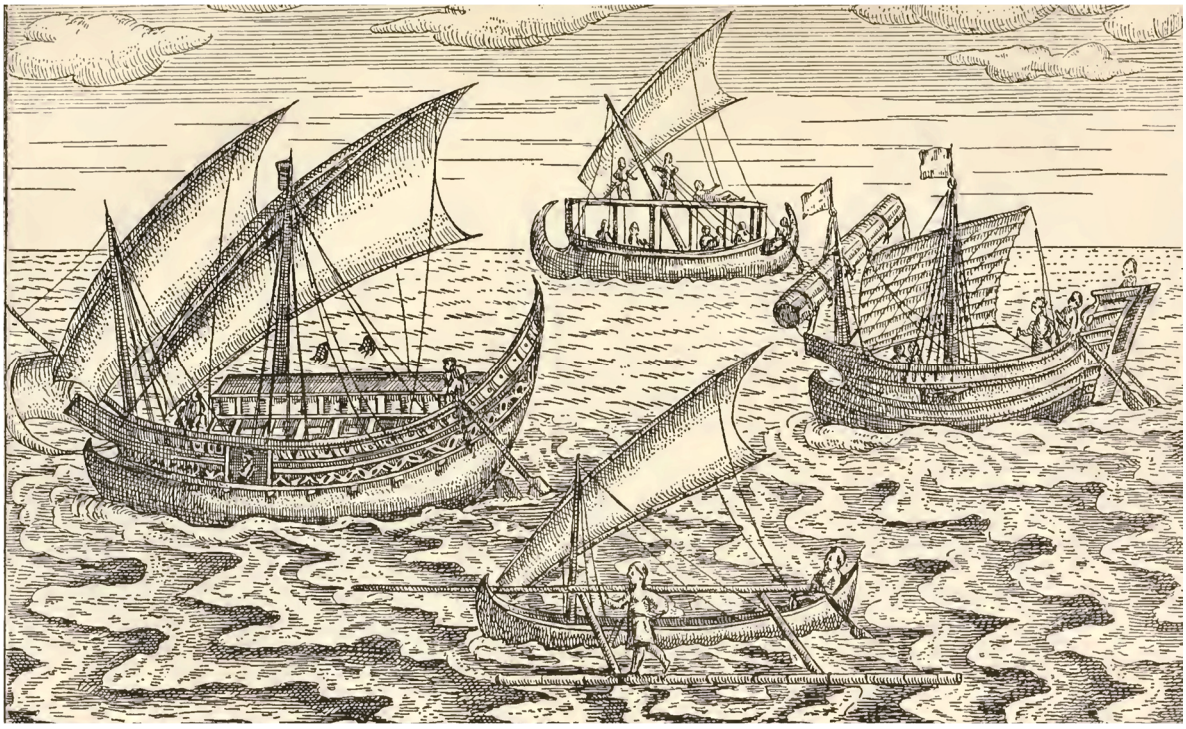


Fig.3.1-29: Lodewijk's 1598 drawing of 'ships of the island of Java, named *Iuncos*' (Rouffaer, and Ijzerman [eds.] 1915, I(7): 132(2)).

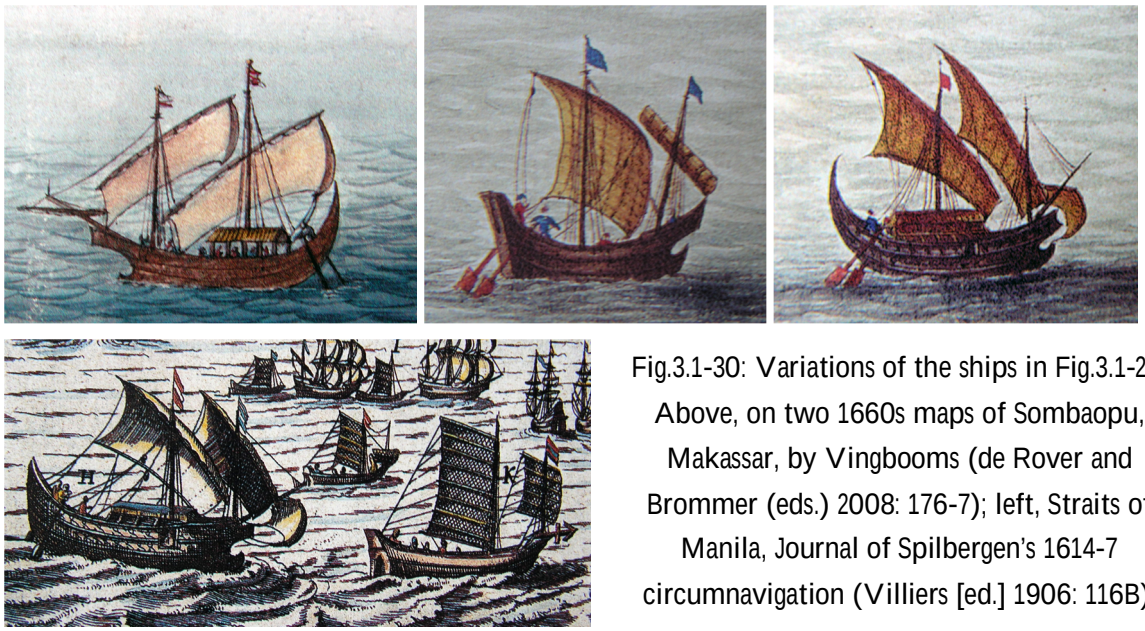


Fig.3.1-30: Variations of the ships in Fig.3.1-29. Above, on two 1660s maps of Sombaopu, Makassar, by Vingbooms (de Rover and Brommer (eds.) 2008: 176-7); left, Straits of Manila, Journal of Spilbergen's 1614-7 circumnavigation (Villiers [ed.] 1906: 116B).

3.2 The Vessel's Remains

Video capture courtesy Yves Gladu, 2004

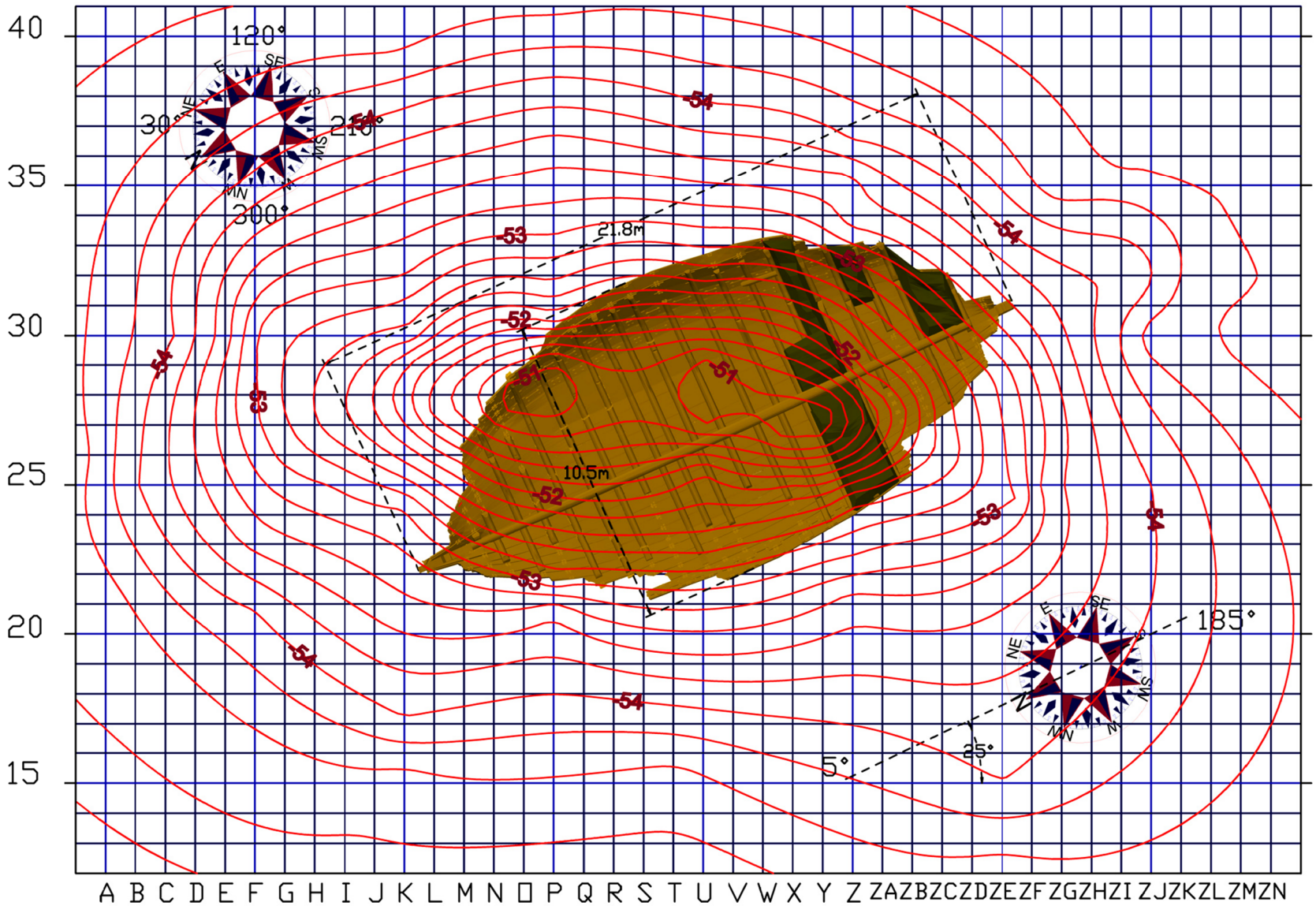


Fig.3.2-1: Remains of hull projected under initial bathymetric drawing.

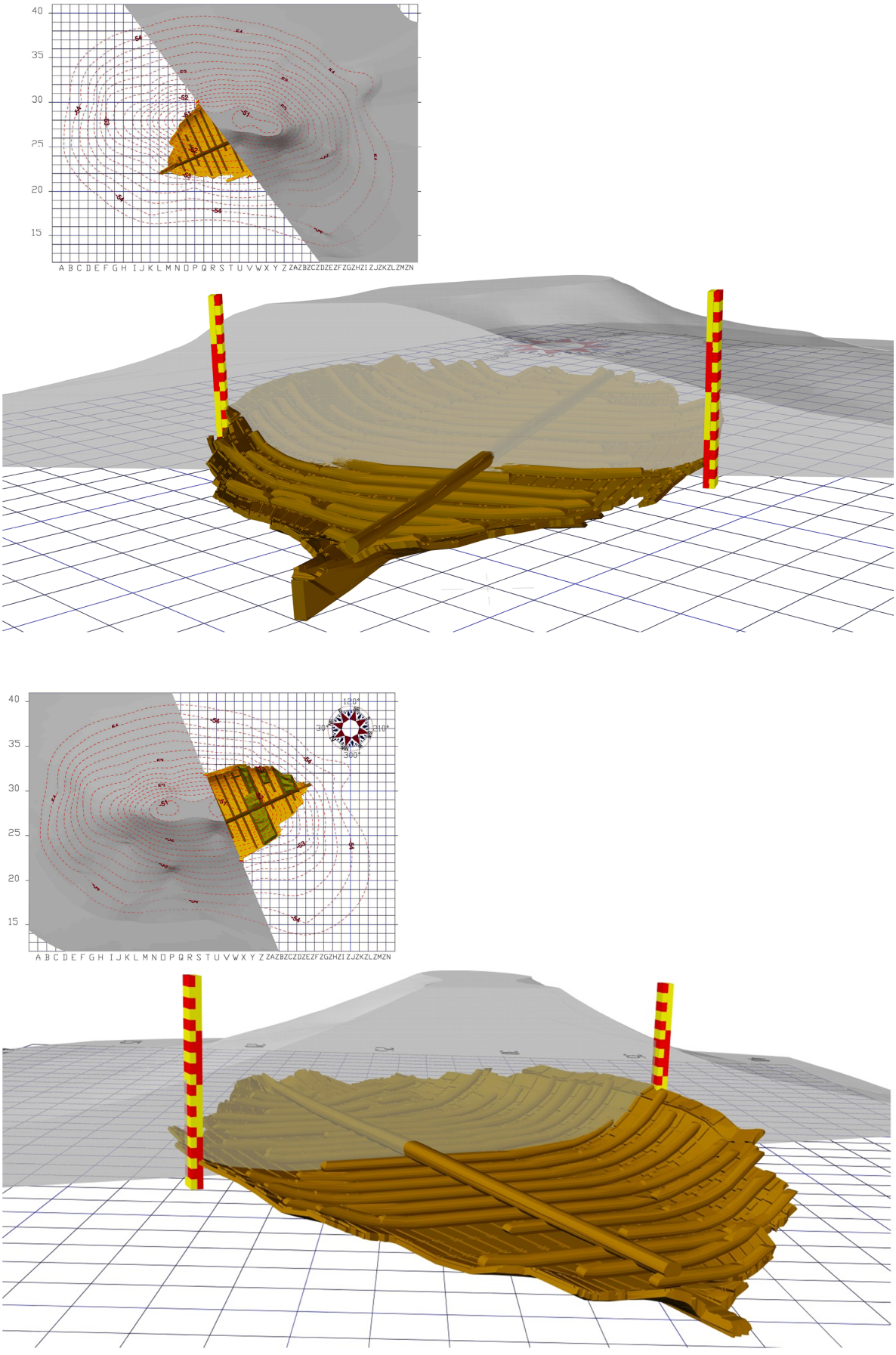


Fig.3.2-2: Projection of hull's remains under initial bathymetric drawing. Above, bow section, below, stern; insets show position of virtual "cut" through the tumulus. Scales representing 1 / 0.2 m; concretions omitted in lateral views.

Fig.3.2-3: Hull timbers found loose off the bows of the vessel, surfaced in October 2004. The plank fragment proposedly belongs to strake X, portside bow.

Fig.3.2-4: Attempt at overall photography of hull's remains, October 2005; portside, foreship. Video capture (2005) courtesy Yves Gladu,.

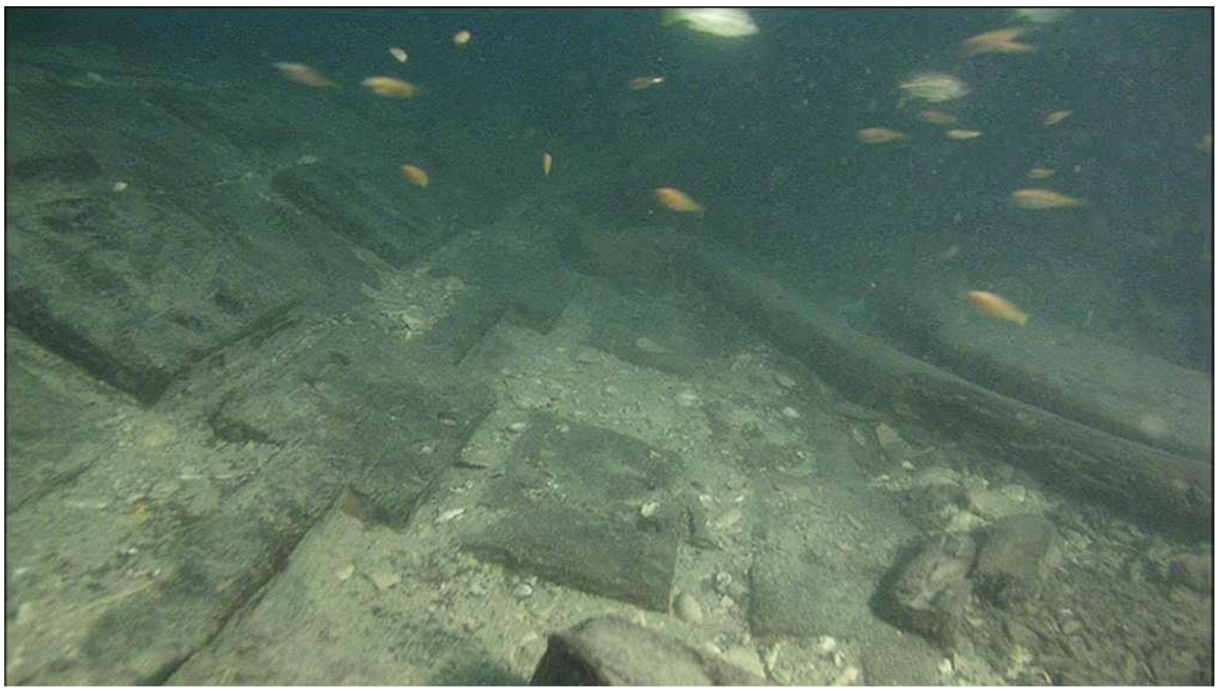


Fig.3.2-5: Attempt at overall photography of hull's remains, October 2005; starboard, looking aft. Video capture (2005) courtesy Yves Gladu.

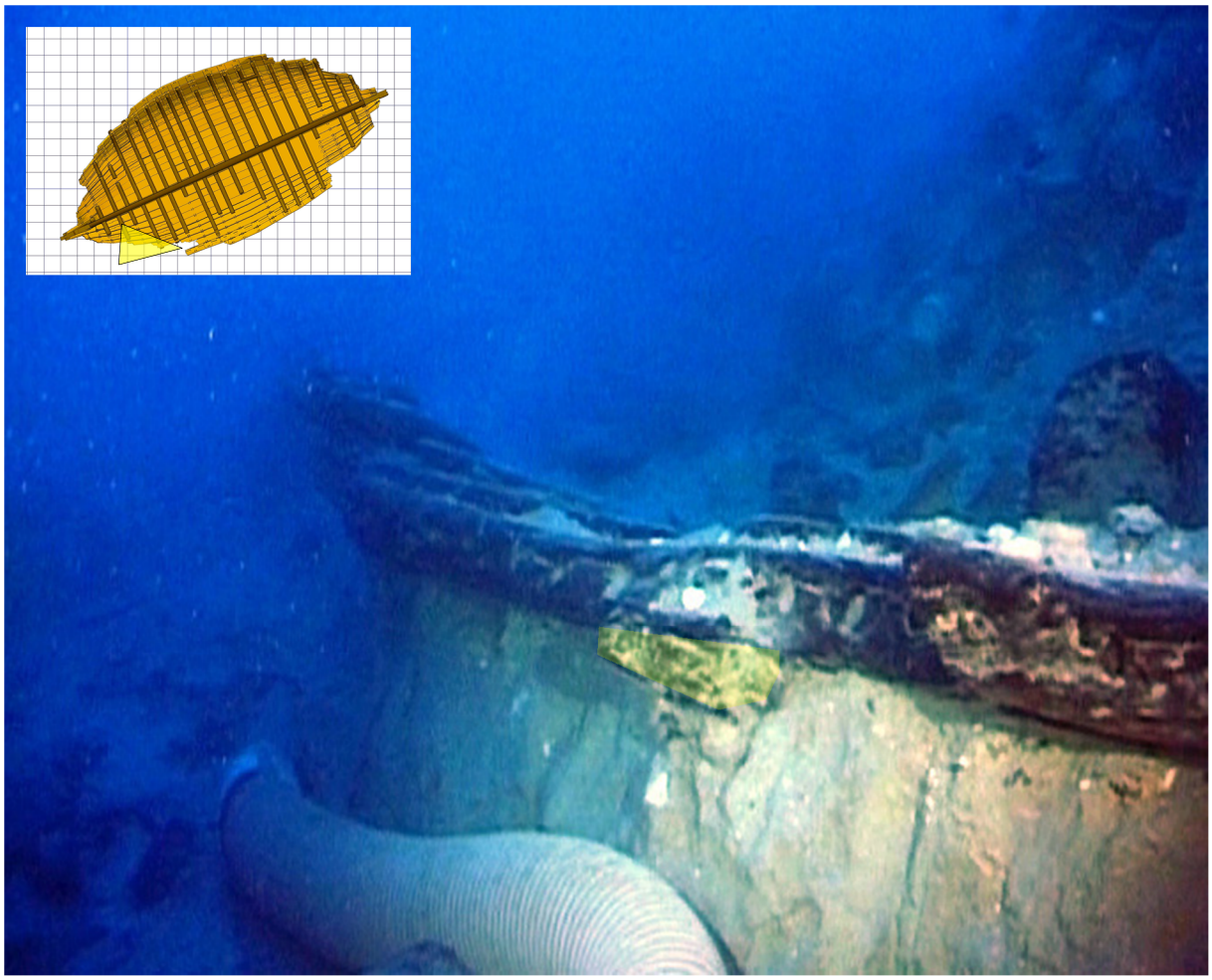


Fig.3.2-6: Hull left in sandbed; inset outlines view angle; note the head of the brace attached to the hull's weatherside in the lower centre of the picture (shaded in transparent yellow). Photograph courtesy Fred Dobberphul.

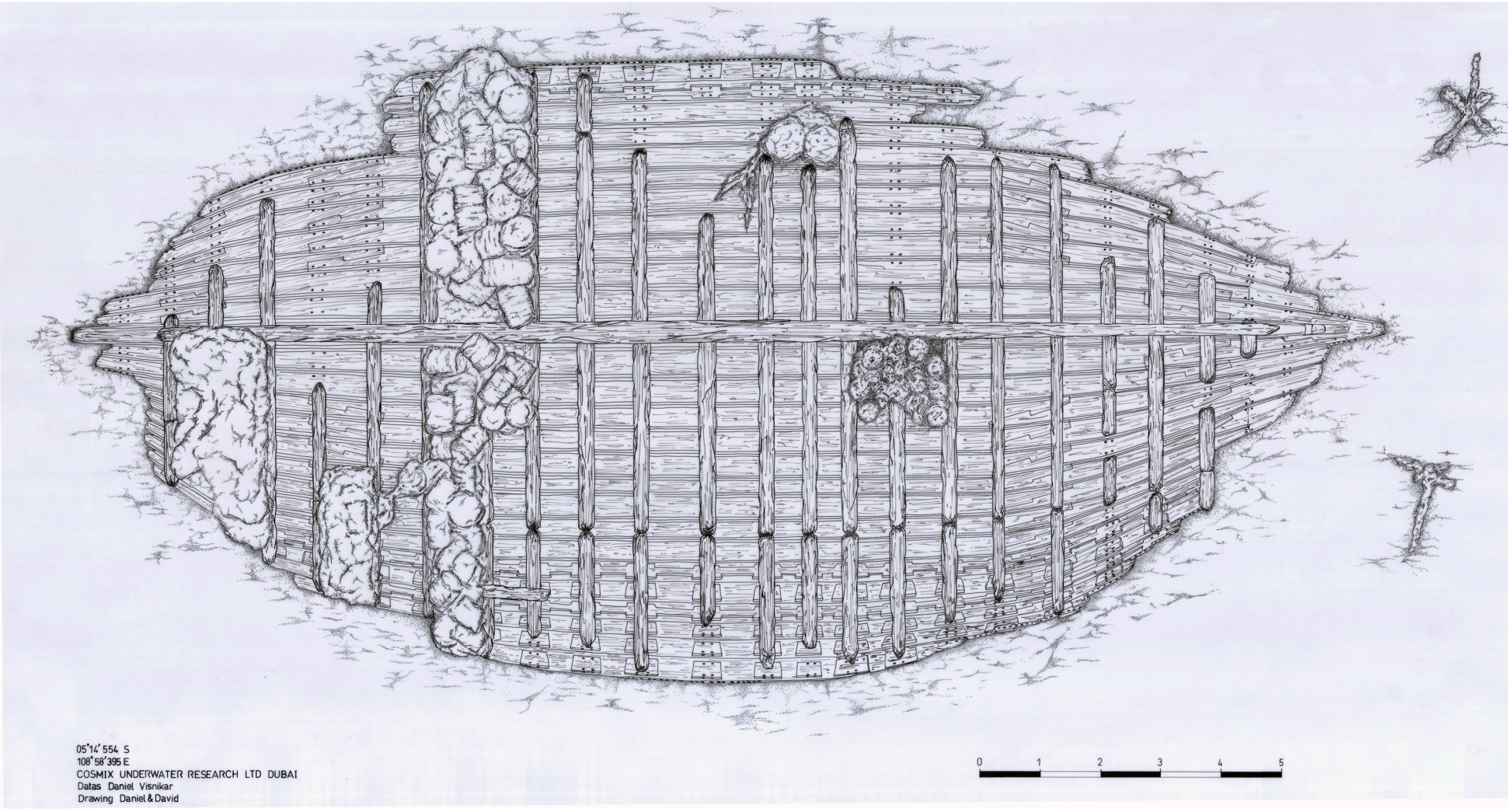


Fig. 3.2-7: D. Visnikar's overall drawing of the hull's remains; courtesy Cosmix Underwater Research Ltd.

Fig. 3.2-8: Keel/bow-piece, showing lateral “cheeks”; photograph courtesy F. Dobberphul, May 2005.

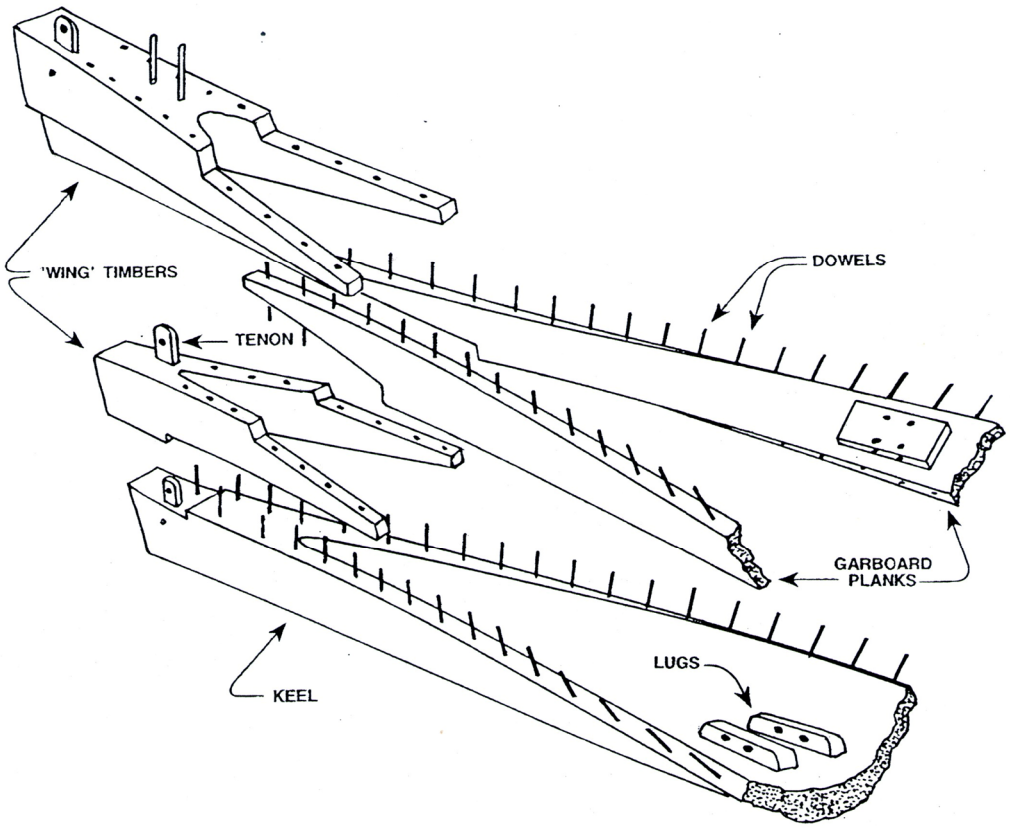


Fig.3.2-9: Bow/keel-piece of the Butuan 2 boat (Clark et.al. 1993: 151)

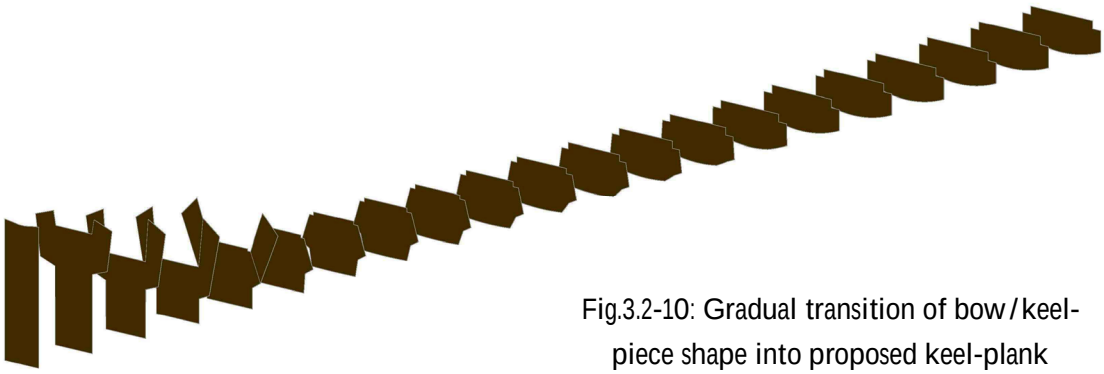


Fig.3.2-10: Gradual transition of bow/keel-piece shape into proposed keel-plank generated by drafting program.

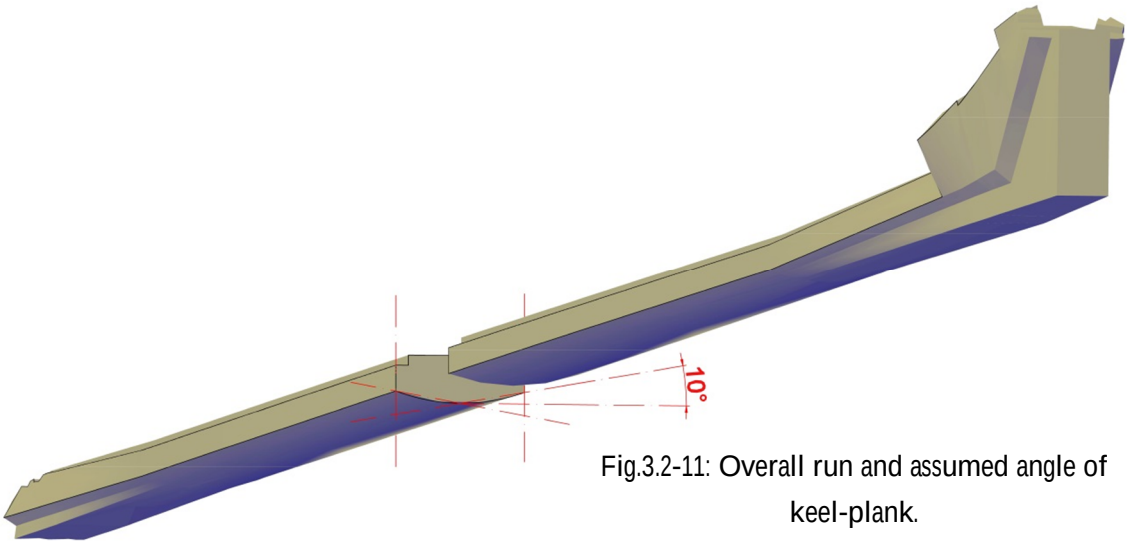
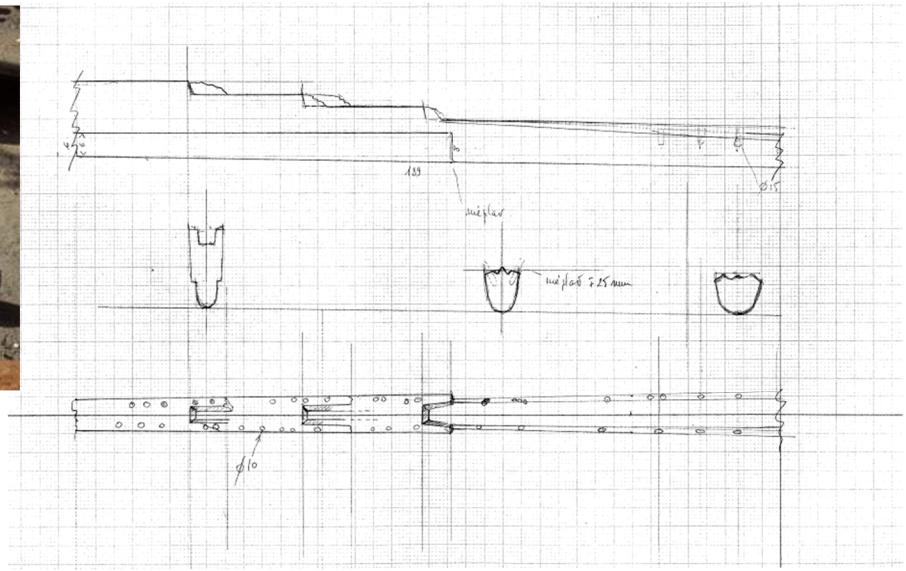


Fig.3.2-11: Overall run and assumed angle of keel-plank.

Fig.3.2-12: Bow section of Punjulharjo wreck; apparent seam between keel and bow wing marked by transparent box. Photograph (2008) courtesy Zainab Tahir / Imam Fauzi.



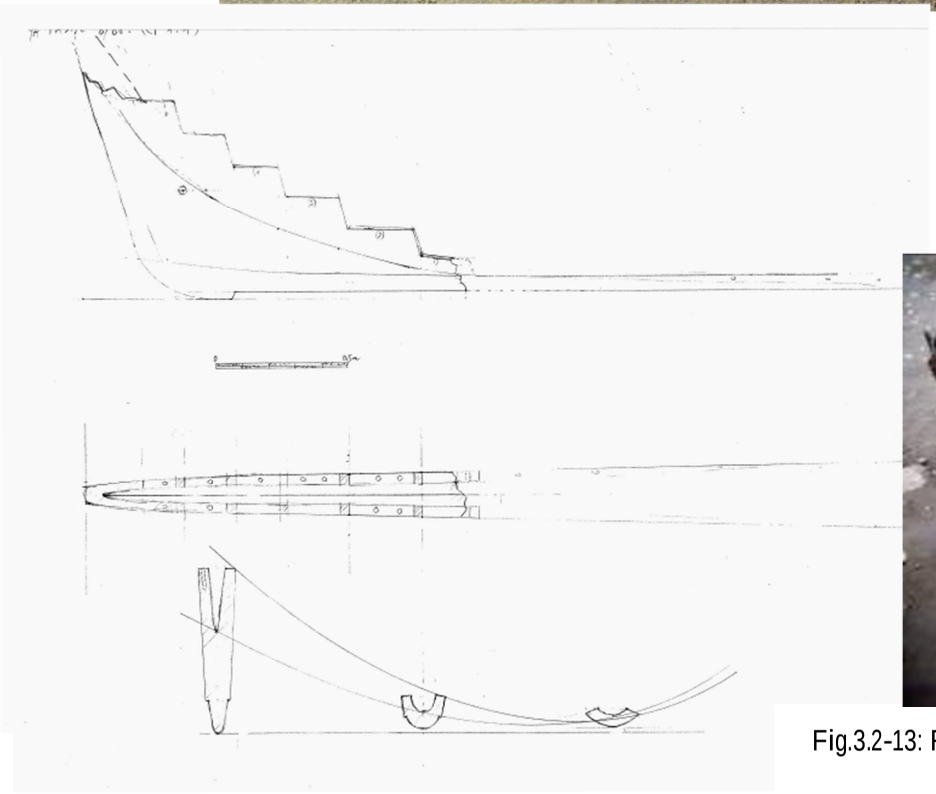


Fig.3.2-13: Remains of bow-wings found at Paya Pasir / Kota Cina (Manguin 2009c: Slides 37, 38).

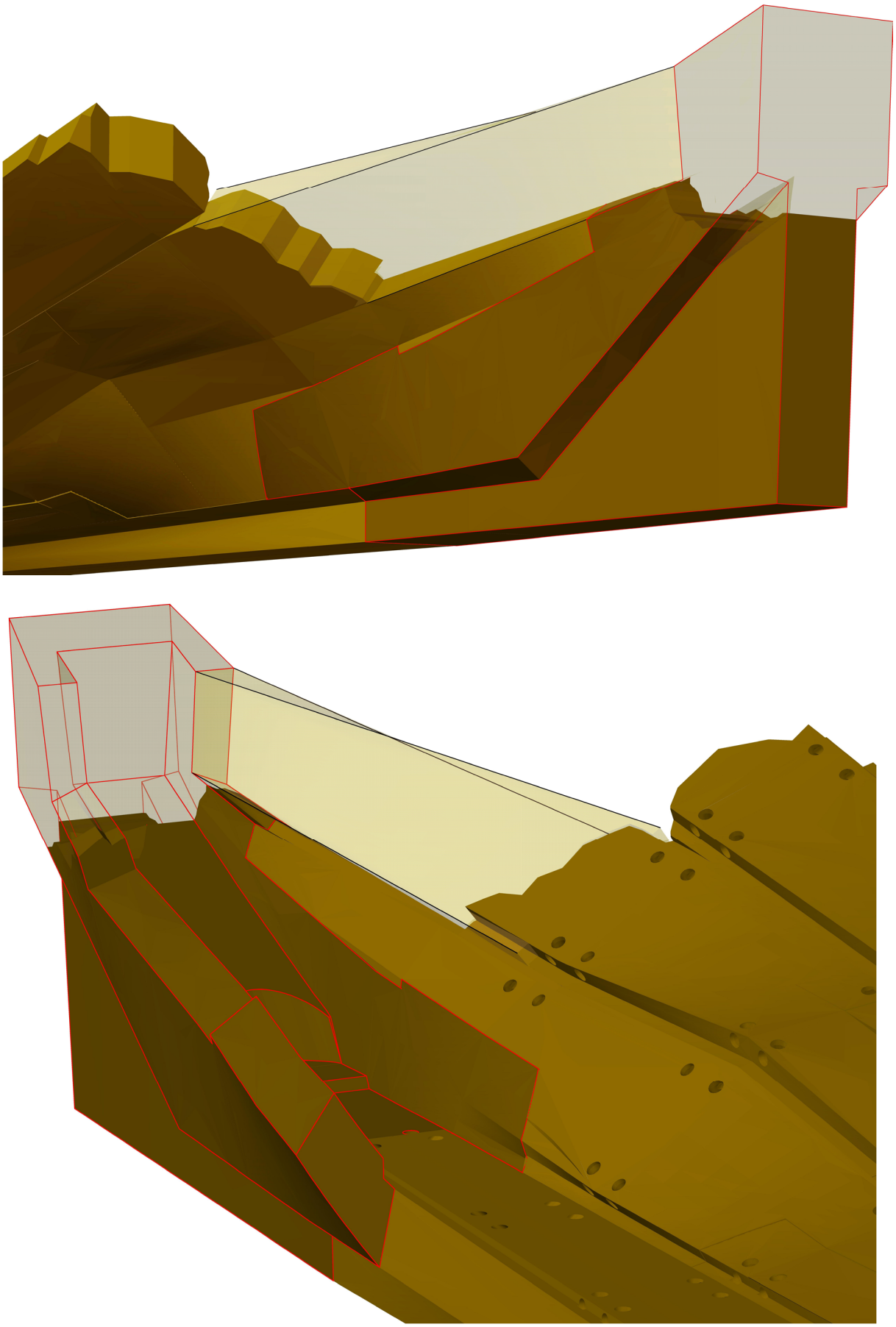


Fig.3.2-14: Bow-wing (dark; outlined in red) and starboard bow planking (light brown). Transparency marks assumed lost extensions of plank strakes and bow-wing.

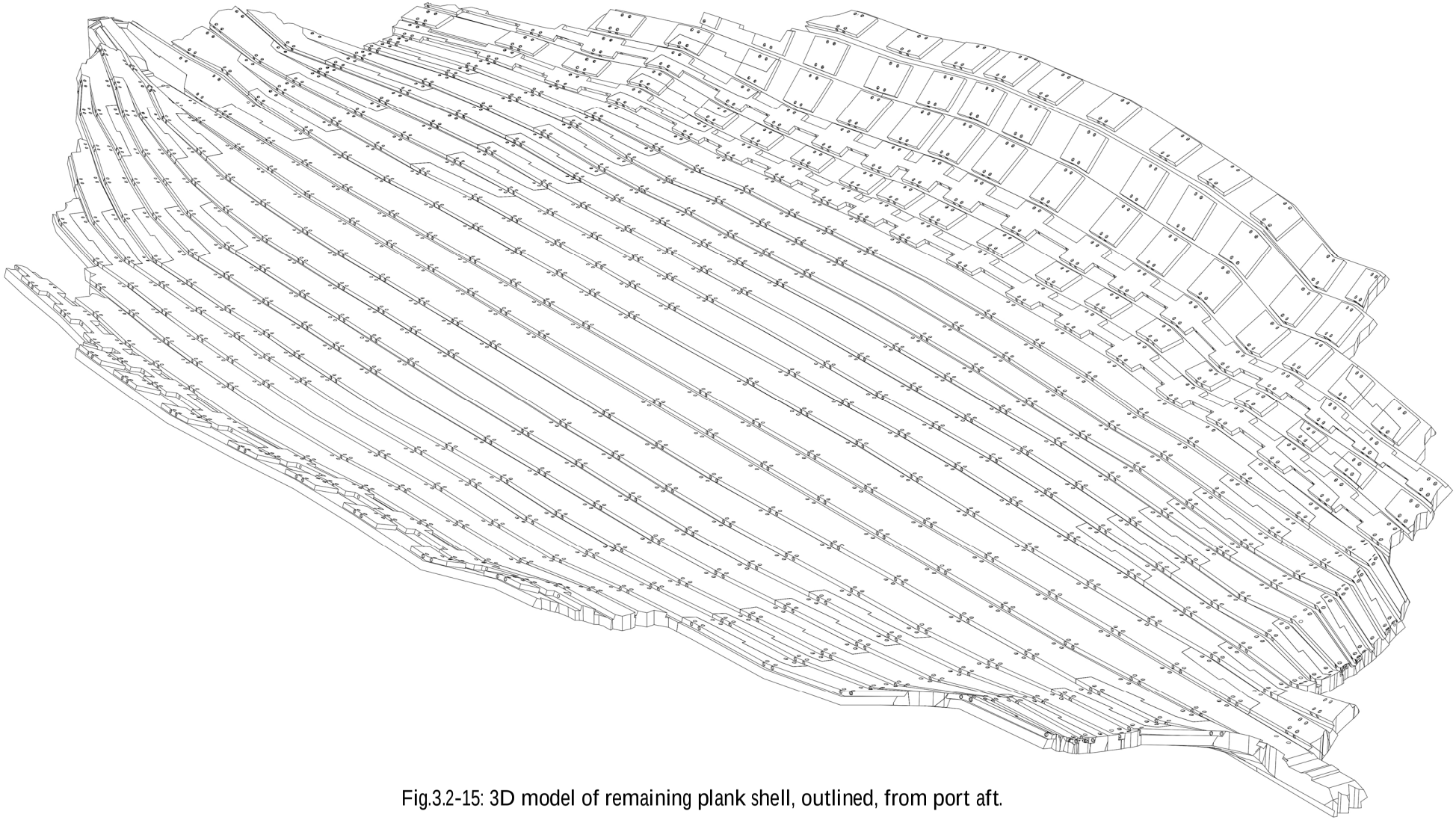


Fig.3.2-15: 3D model of remaining plank shell, outlined, from port aft.

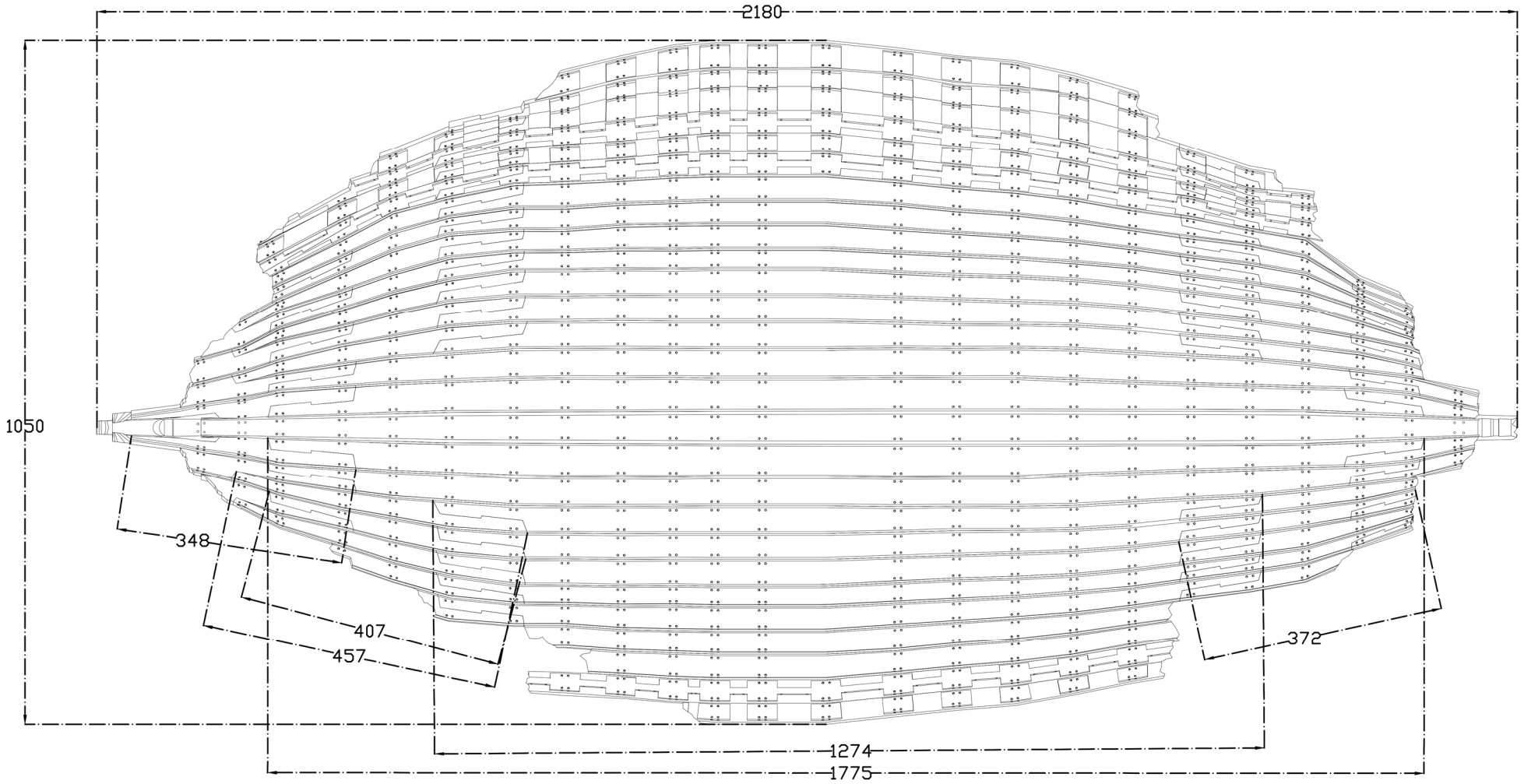


Fig.3.2-16: Outlined view of remaining plank shell, seen from atop; measurements in cm.

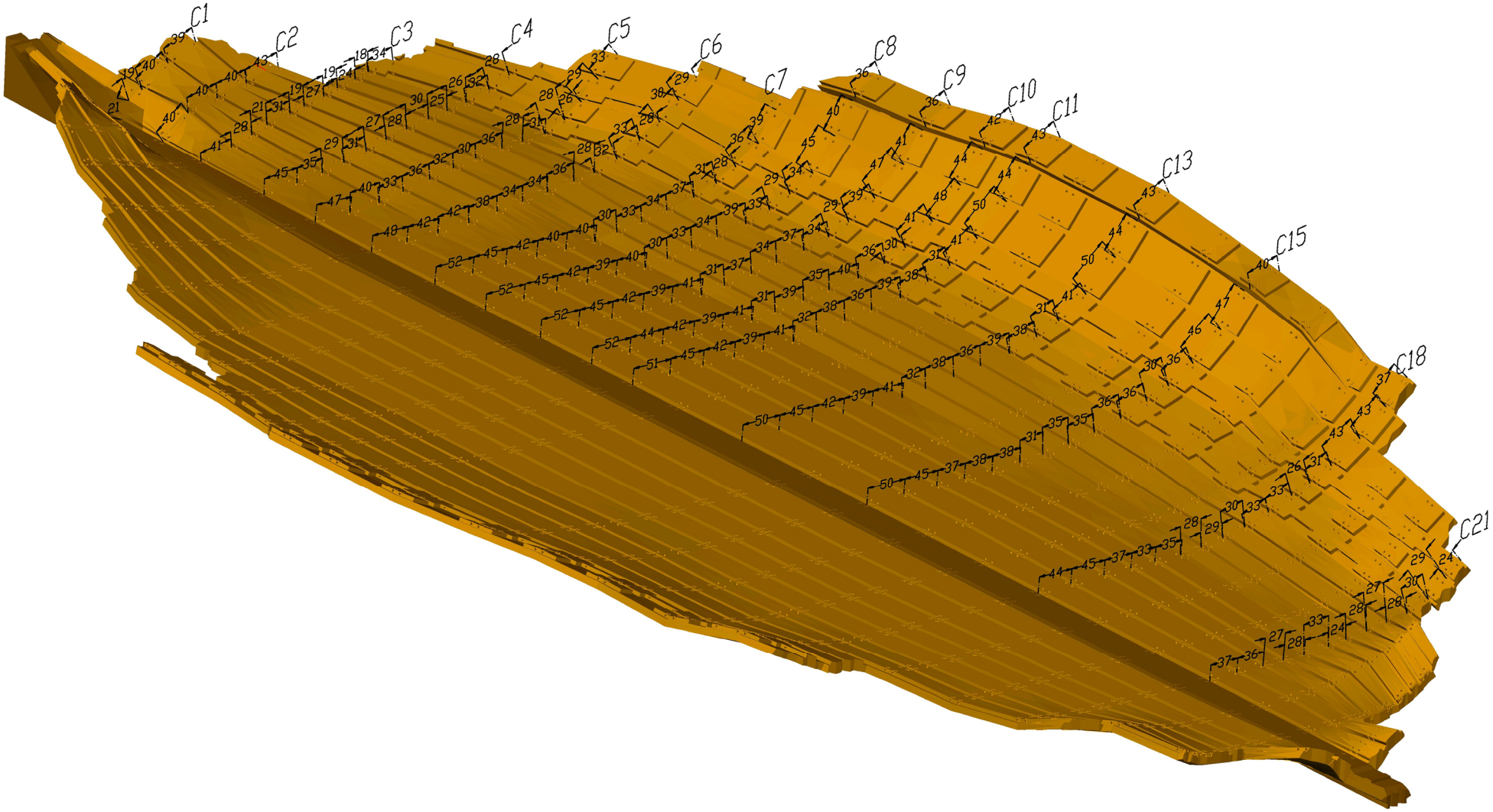


Fig.3.2-17: Seen from port aft, plank widths; measurements in cm.

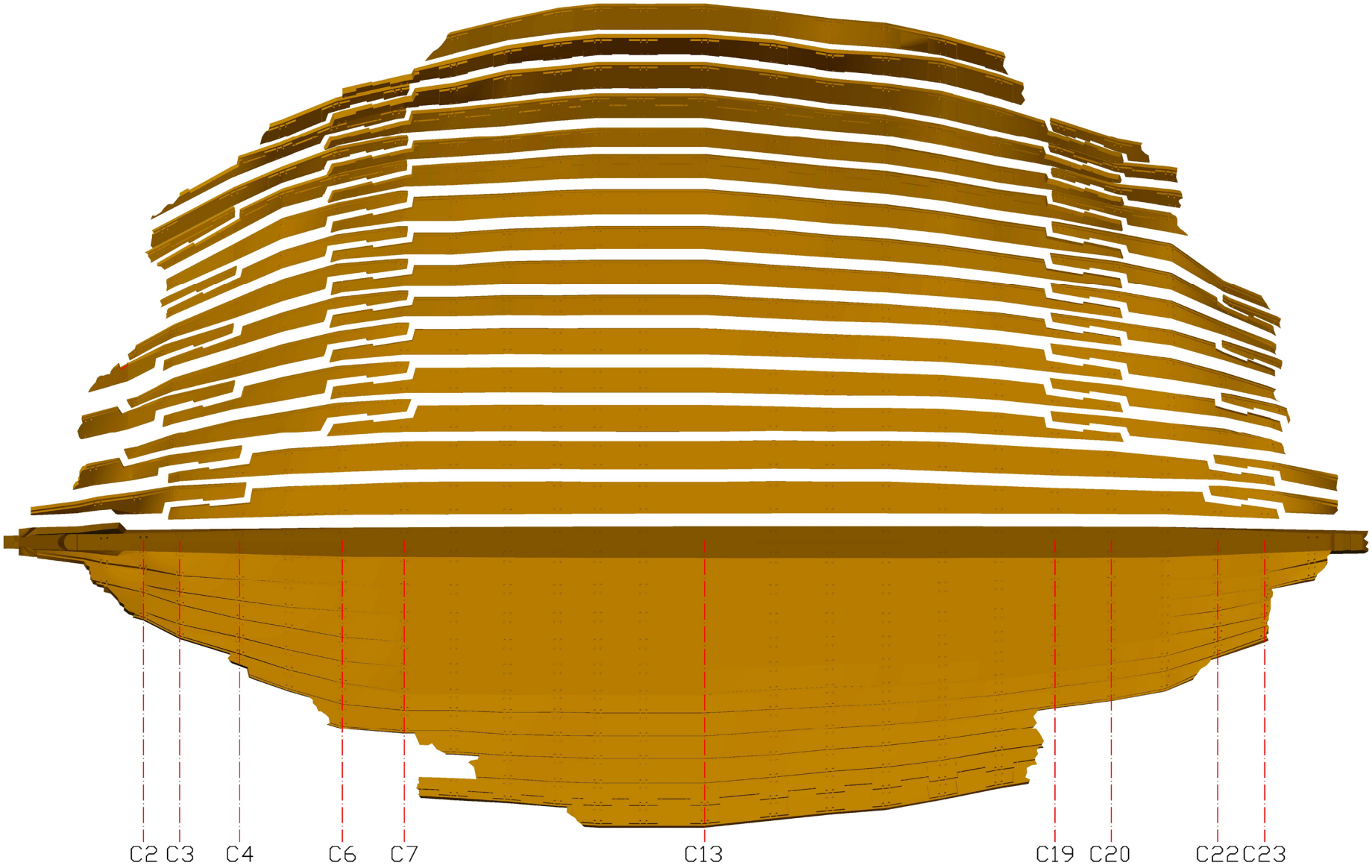


Fig.3.2-18: Remaining planks, top view, starboard “exploded”; broken red lines note approximate position of frame stations.

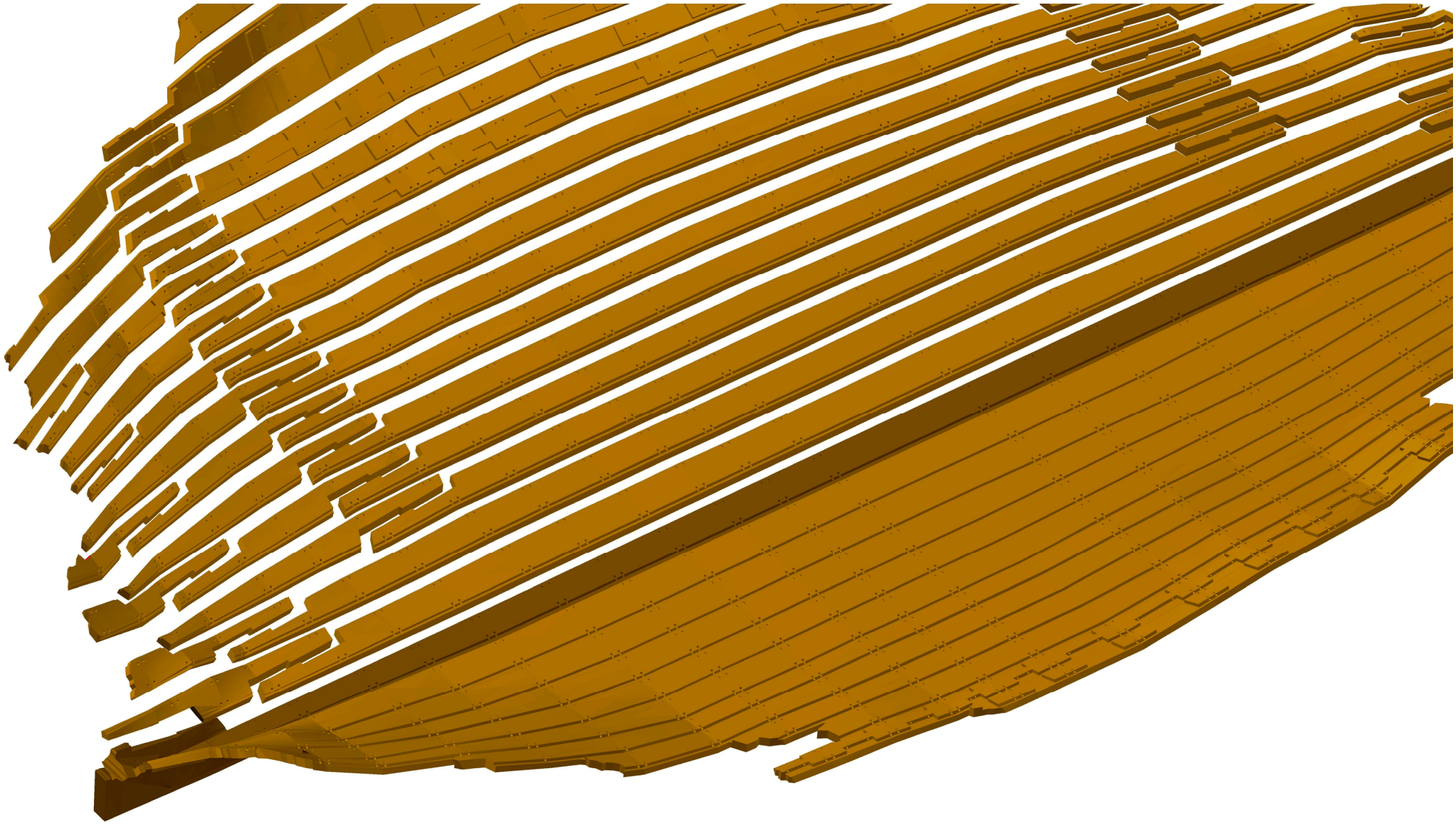


Fig.3.2-19: As previous figure, seen from port bow.

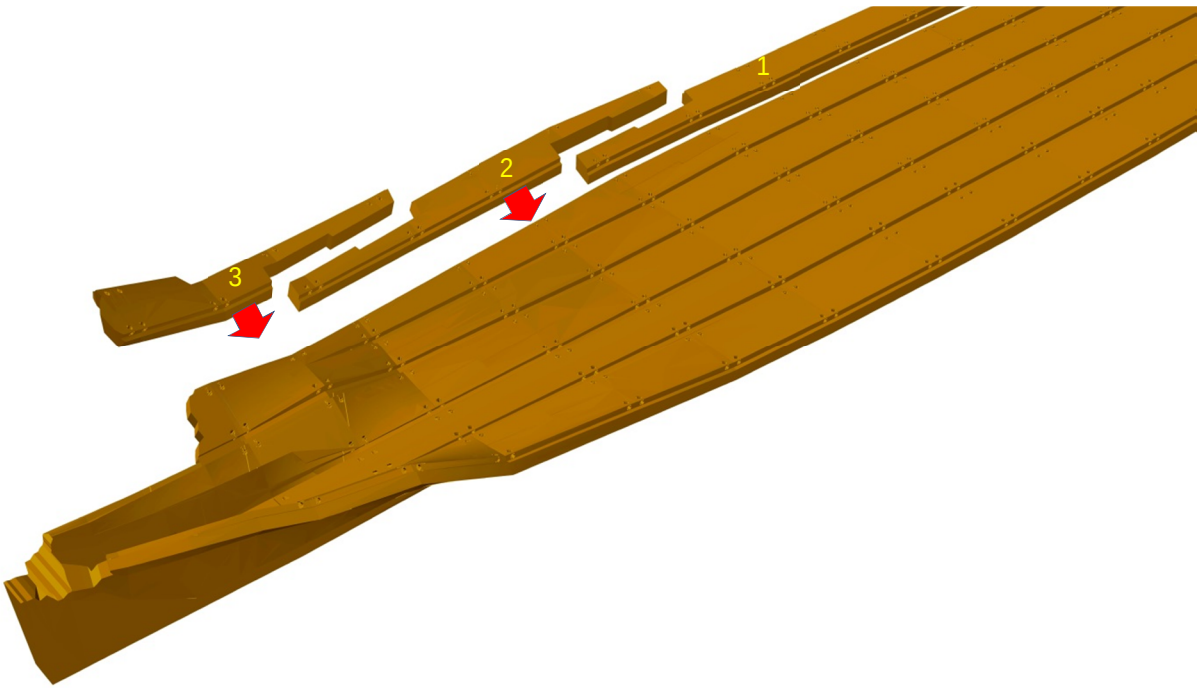


Fig.3.2-20: Proposed plank laying sequence, here for strake IV, starboard bows.

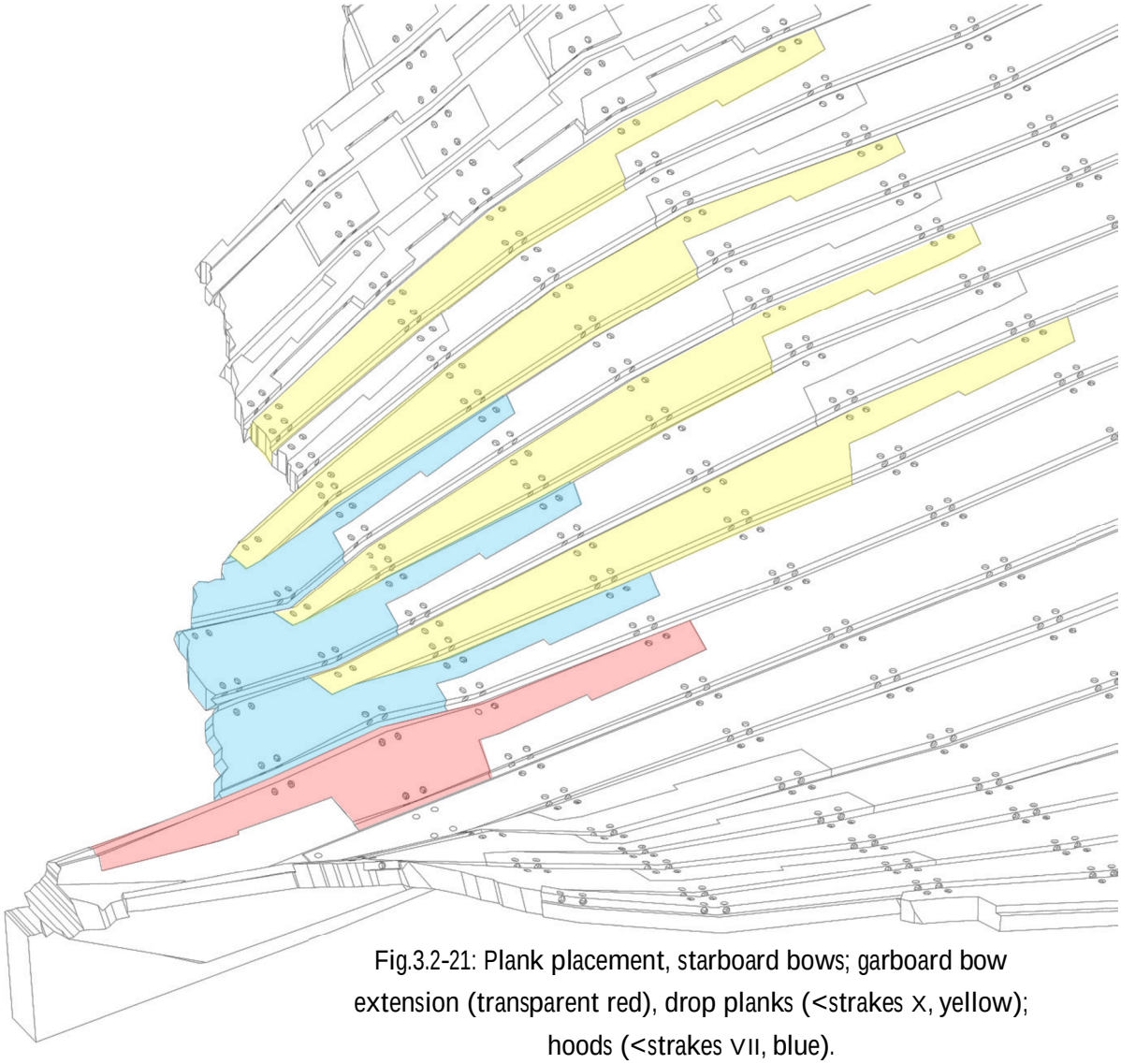


Fig.3.2-21: Plank placement, starboard bows; garboard bow extension (transparent red), drop planks (<strakes X, yellow); hoods (<strakes VII, blue).

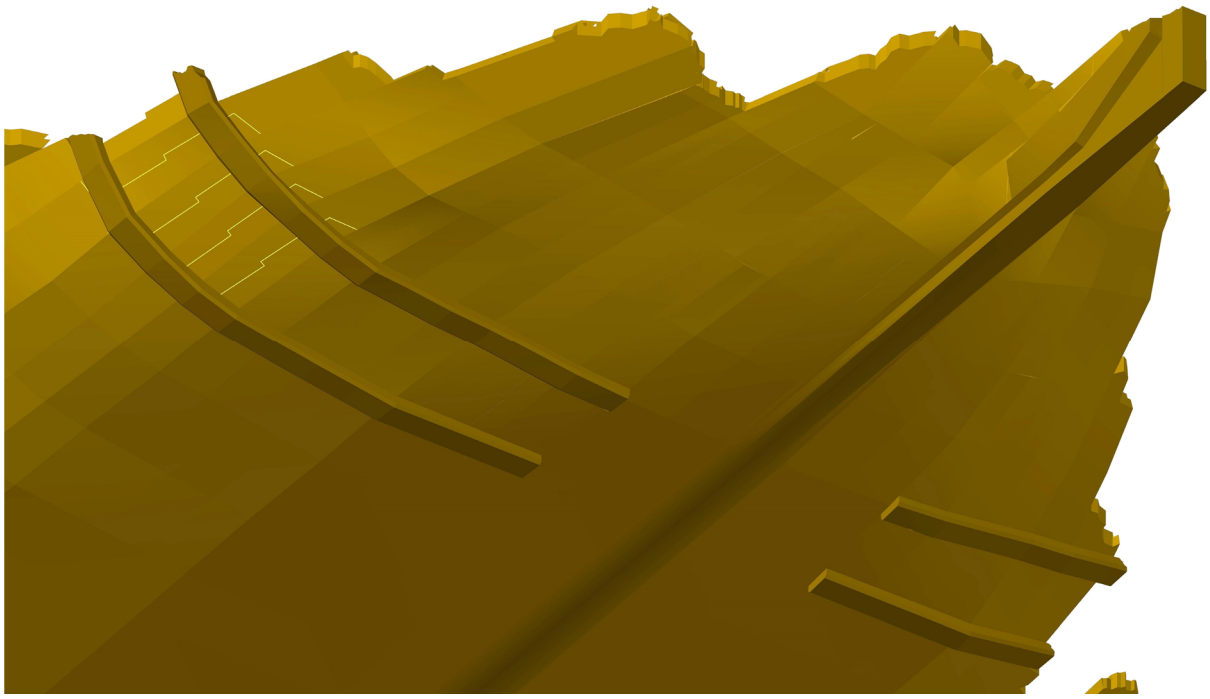
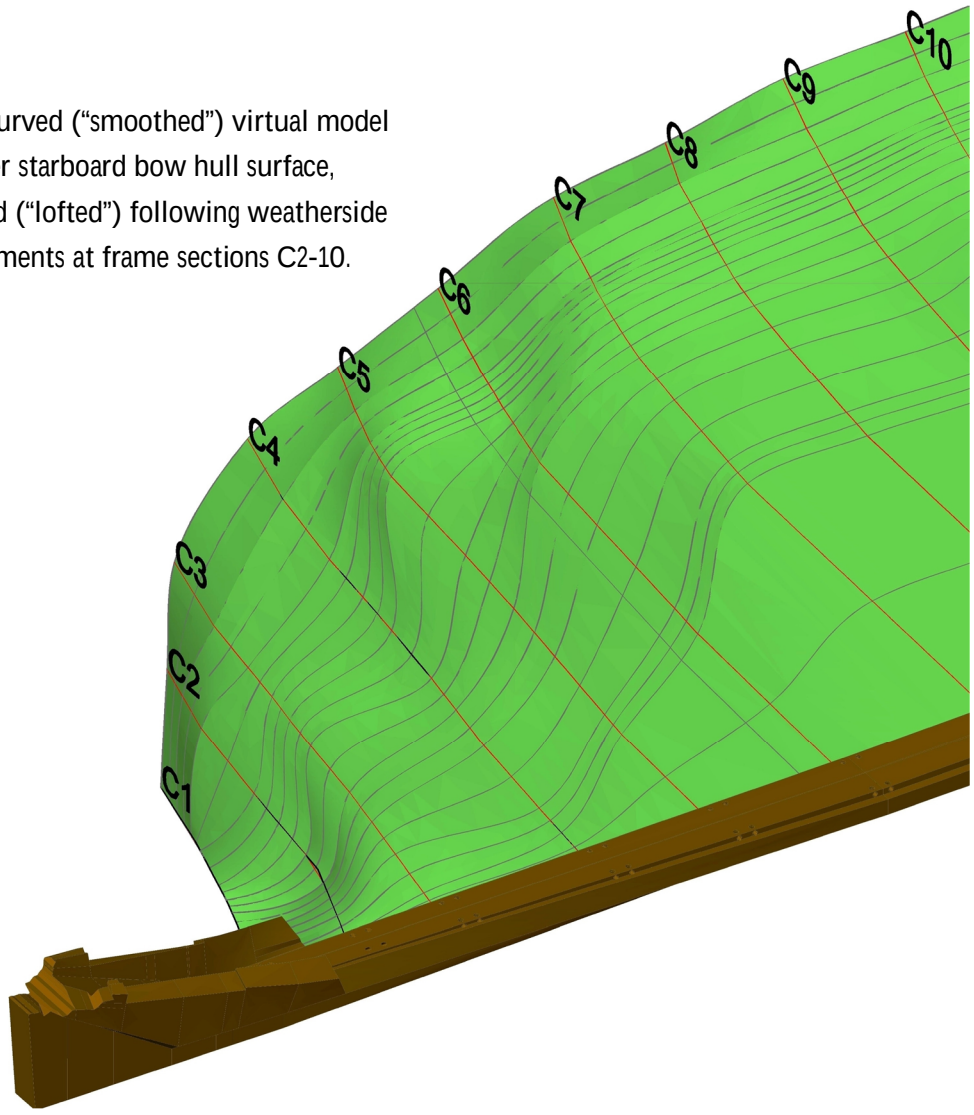


Fig.3.2-22: “Brace” planks on hull’s bow weatherside; top four scarf joints on remaining starboard planking at C6-7 highlighted.

Fig.3.2-23: Curved (“smoothed”) virtual model of lower starboard bow hull surface, extrapolated (“lofted”) following weatherside measurements at frame sections C2-10.



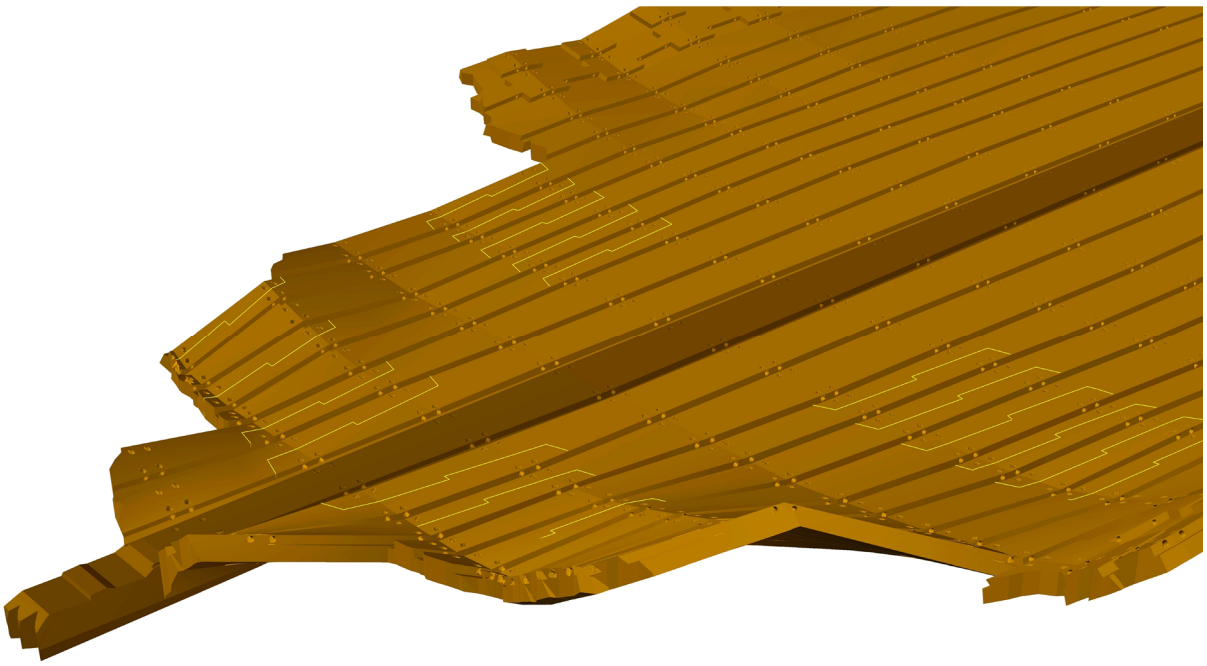


Fig.3.2-24: Deformed aftship; scarf joints at C19/20 and C22/23 highlighted.

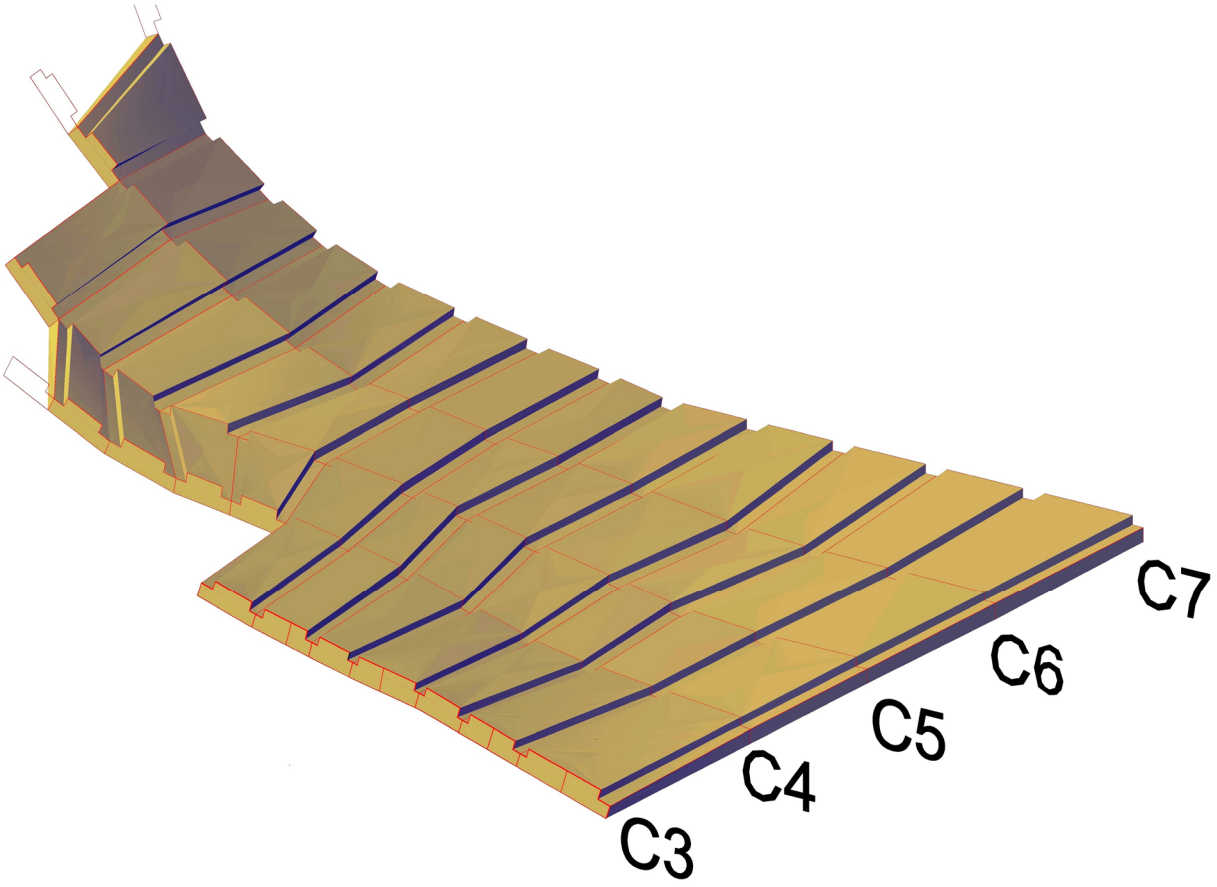


Fig.3.2-25: D.Visnikar's frame sections C3-7, schematic 3D "loft".

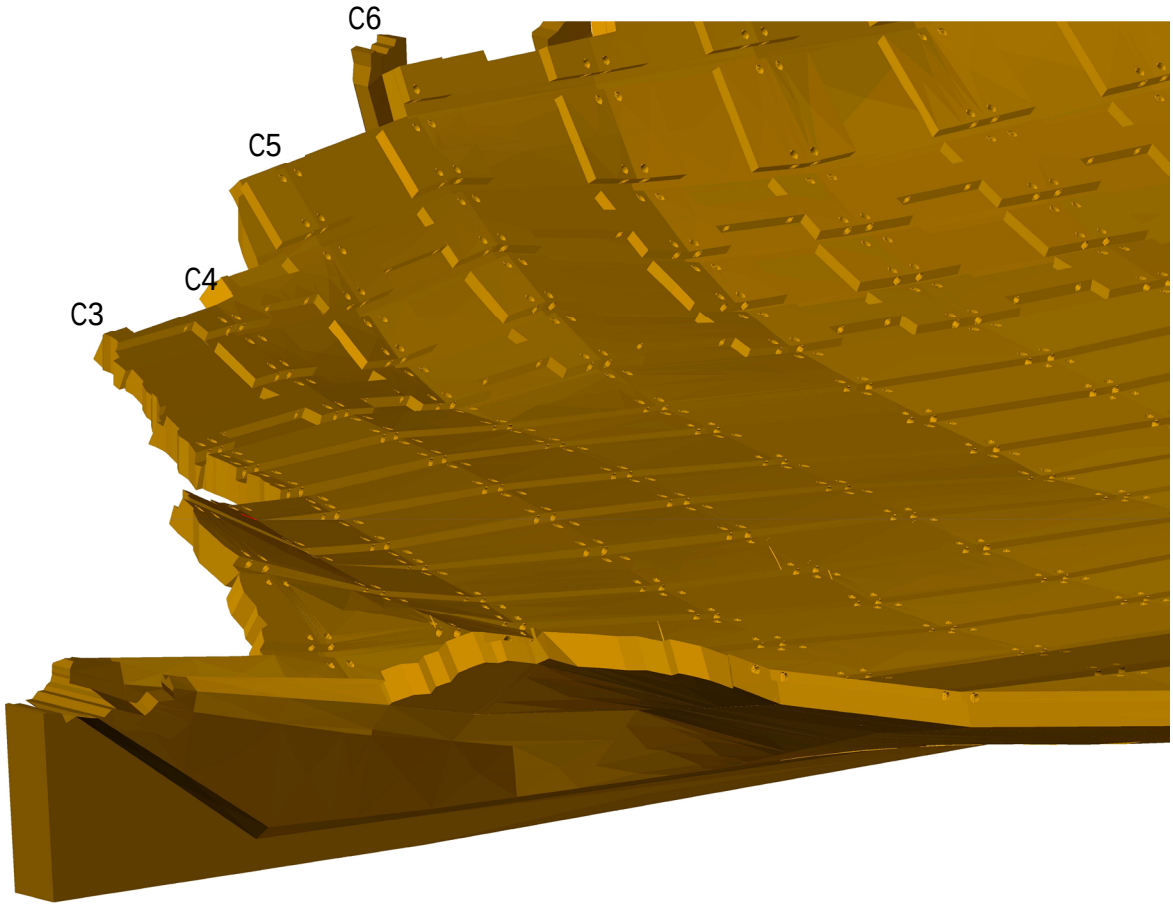


Fig.3.2-26: Starboard bow, reconstructed site model. Note the considerable "drop" of topside strakes at C3 and C5.

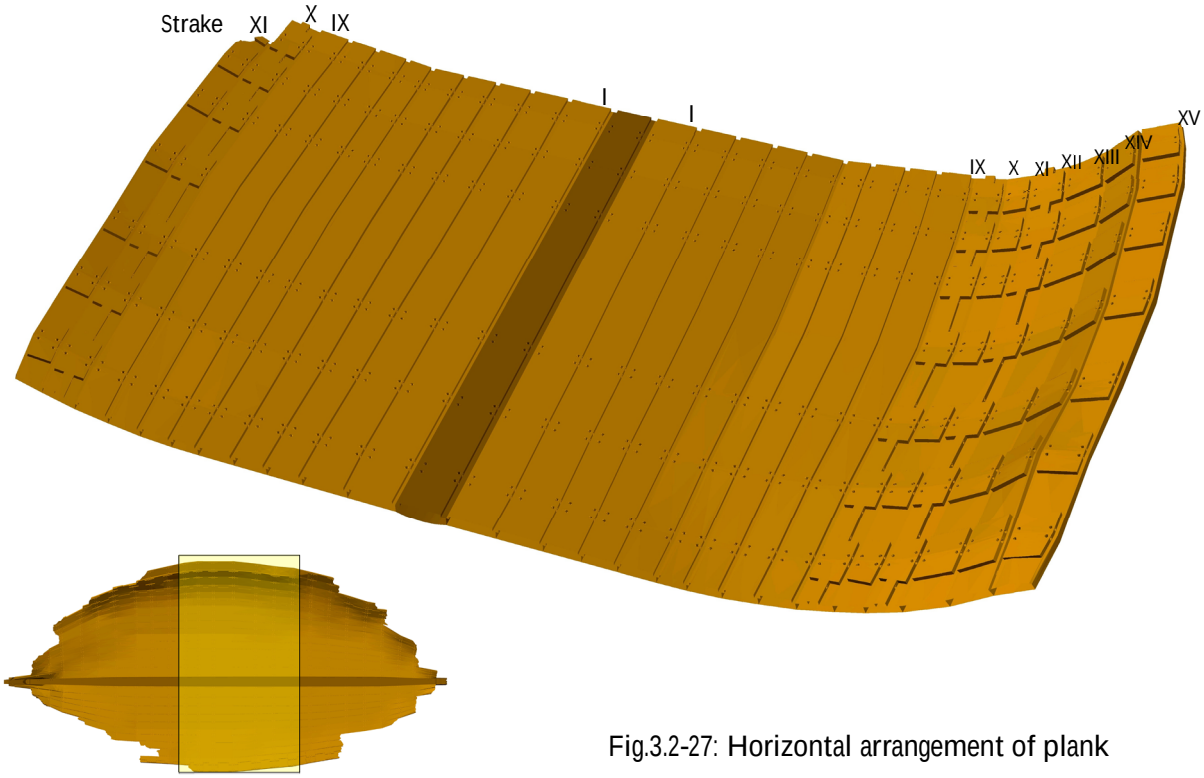


Fig.3.2-27: Horizontal arrangement of plank "types", C10-16.

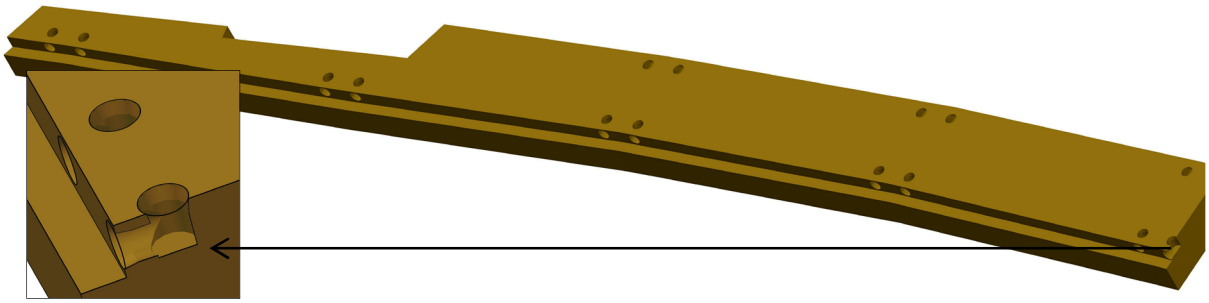


Fig.3.2-28: “Type (i)” plank, starboard, strake IV, C6-10.

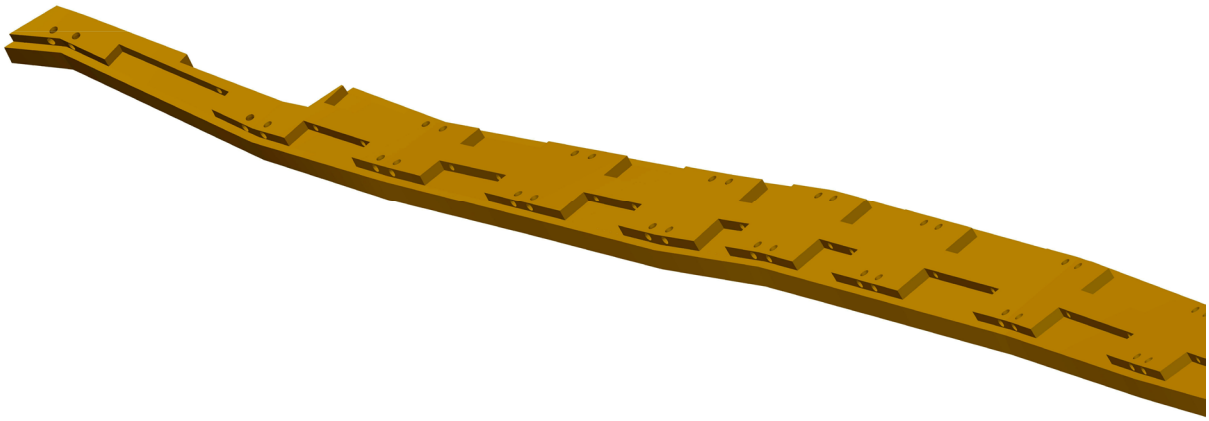


Fig.3.2-29: “Type (ii)” plank, starboard, strake XII, C6-14.

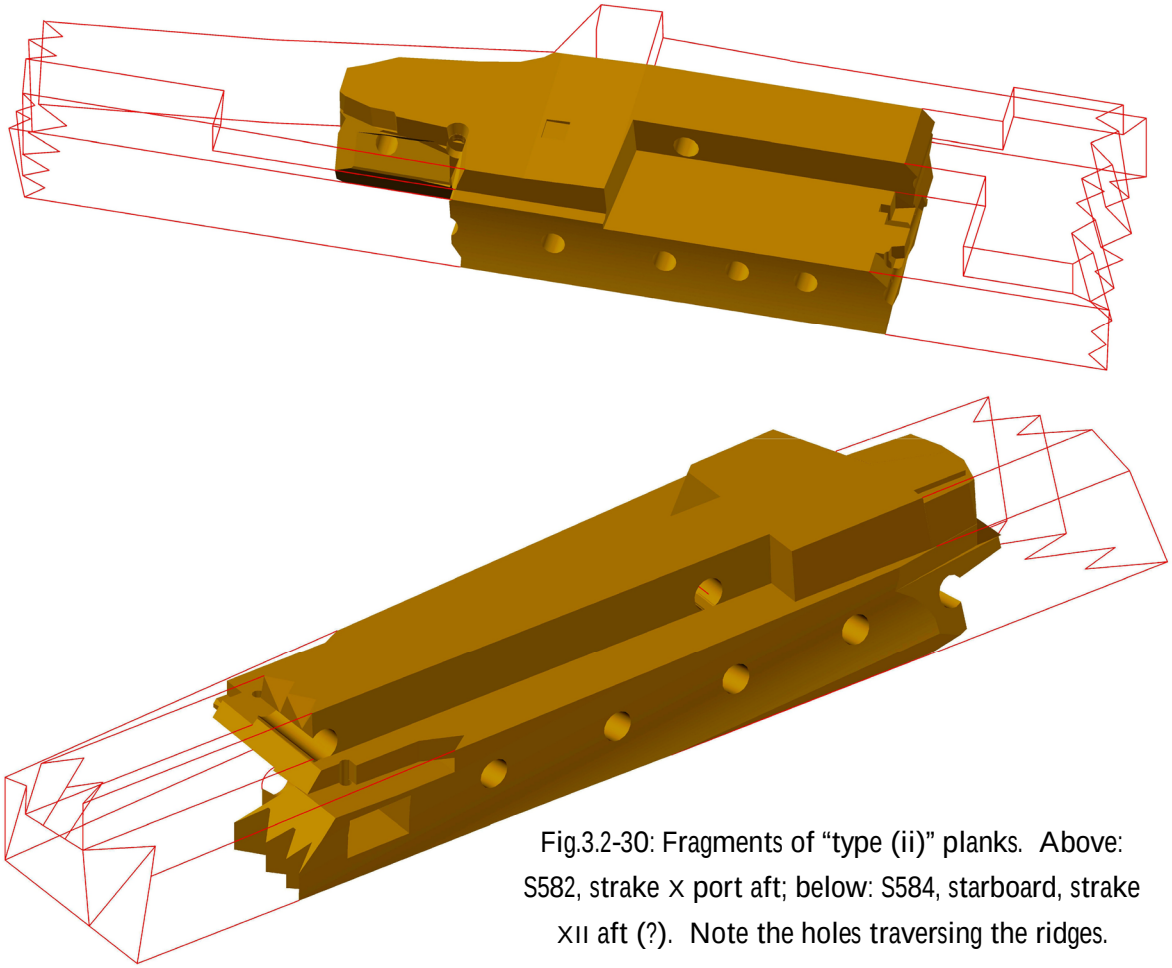


Fig.3.2-30: Fragments of “type (ii)” planks. Above: S582, strake X port aft; below: S584, starboard, strake XII aft (?). Note the holes traversing the ridges.

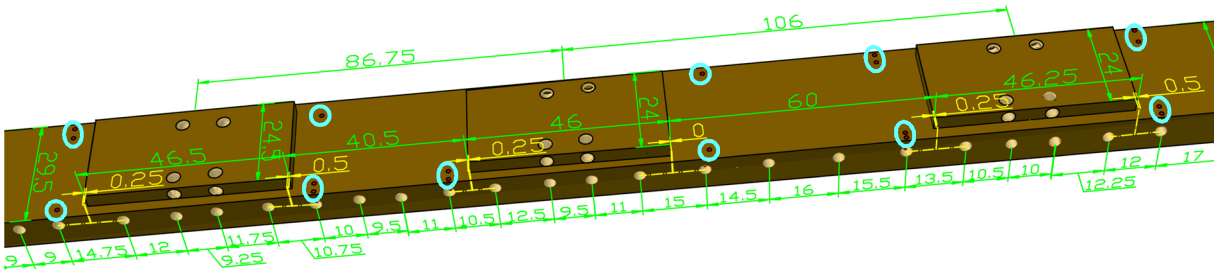


Fig.3.2-31: S573, positions of locking pegs marked light blue, measurements in cm.

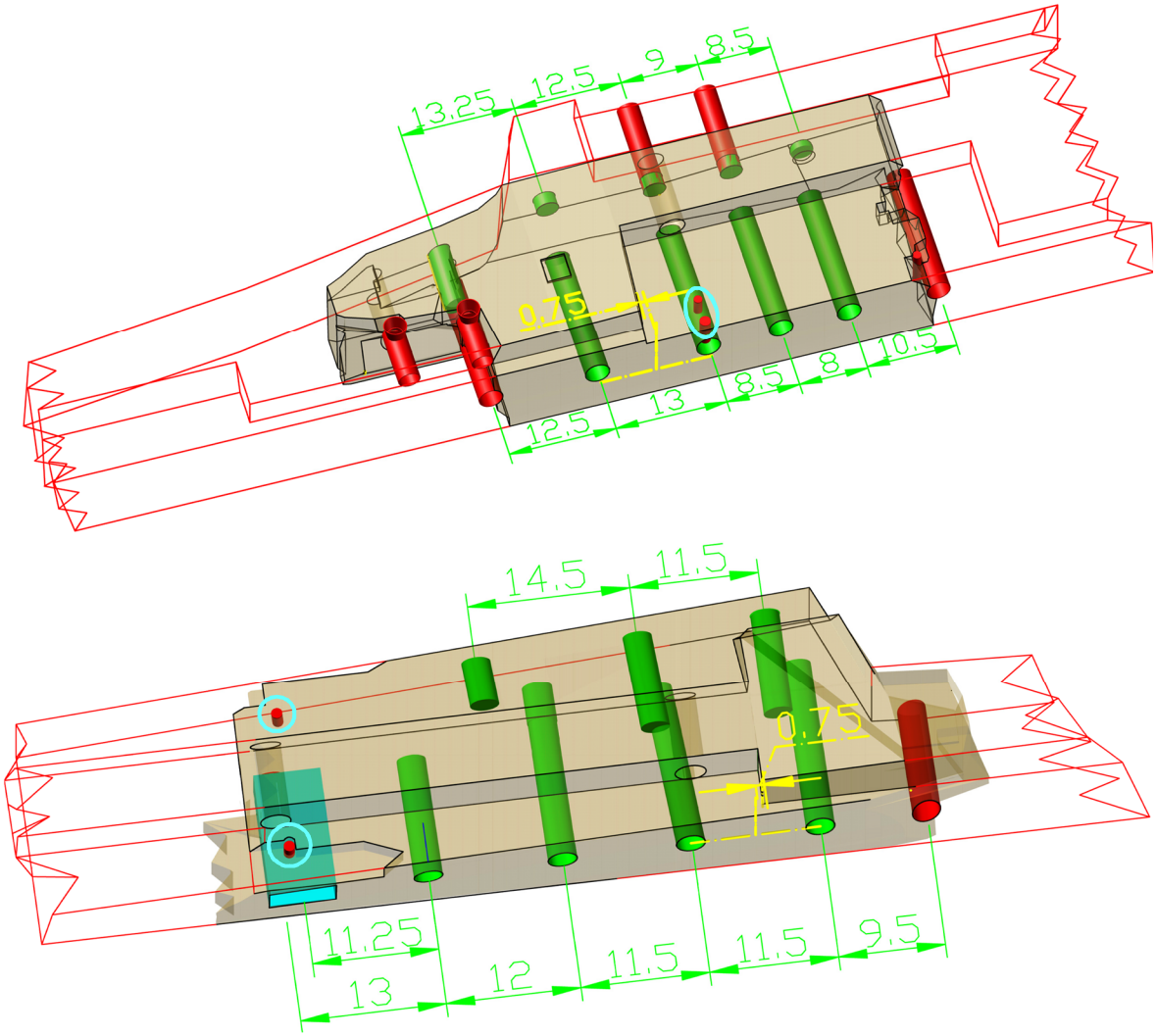


Fig.3.2-32: S582 (above) and S584 (below), dowel placement. Locking pegs, red, marked in light blue; square dowel, light blue; reconstructed dowel and lashing hole positions, red; measurements in cm.

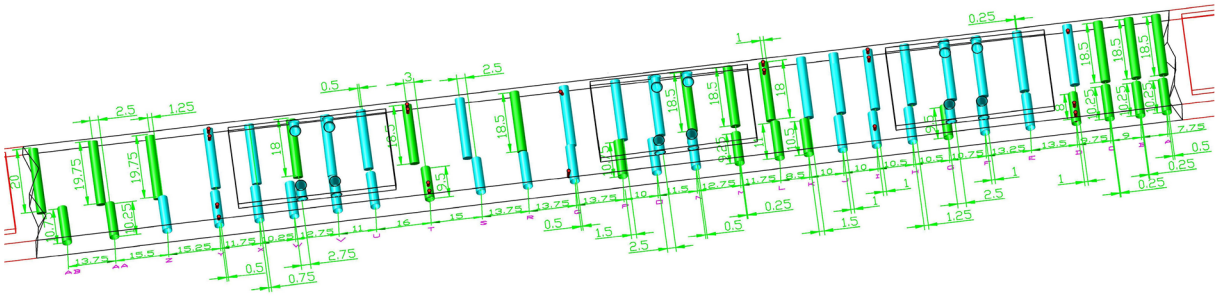


Fig.3.2-33: S573, dowel placement; measured dowels depths, green, assumed dowels, light blue.

Fig.3.2-34: Scratch marks parallel to single dowel holes (highlighted). Left: S34; right: S36.

Fig.3.2-35: |X| mark on S36, proposedly related to square dowel (highlighted).

Fig.3.2-36: Double scratch marks on S581; “doubled’ dowel(hole)s visible above the marks.

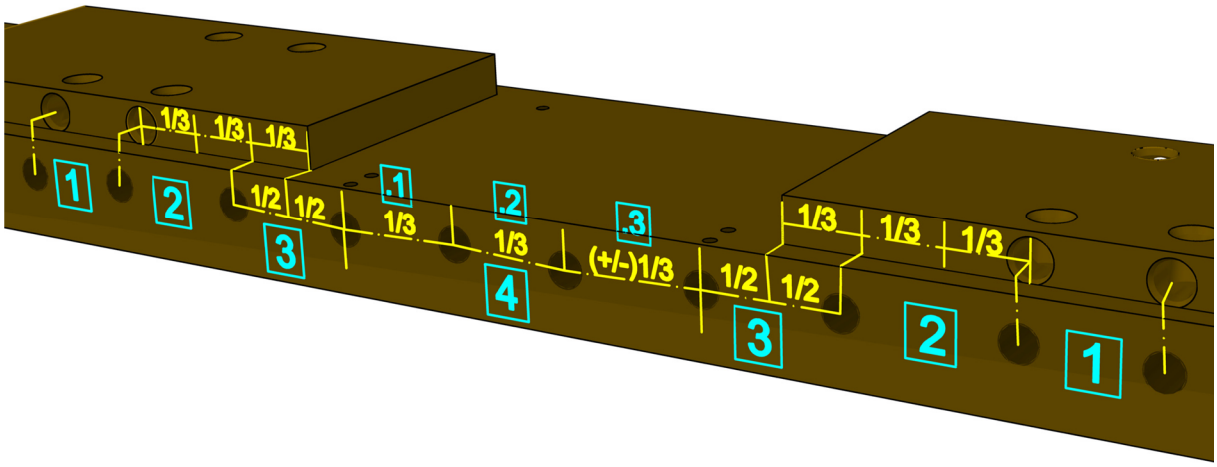


Fig.3.2-37: Dowel placement, proposed sequence.

Fig.3.2-38: Plank fragment S36. Note the dowel hole running through the whole width of the plank.

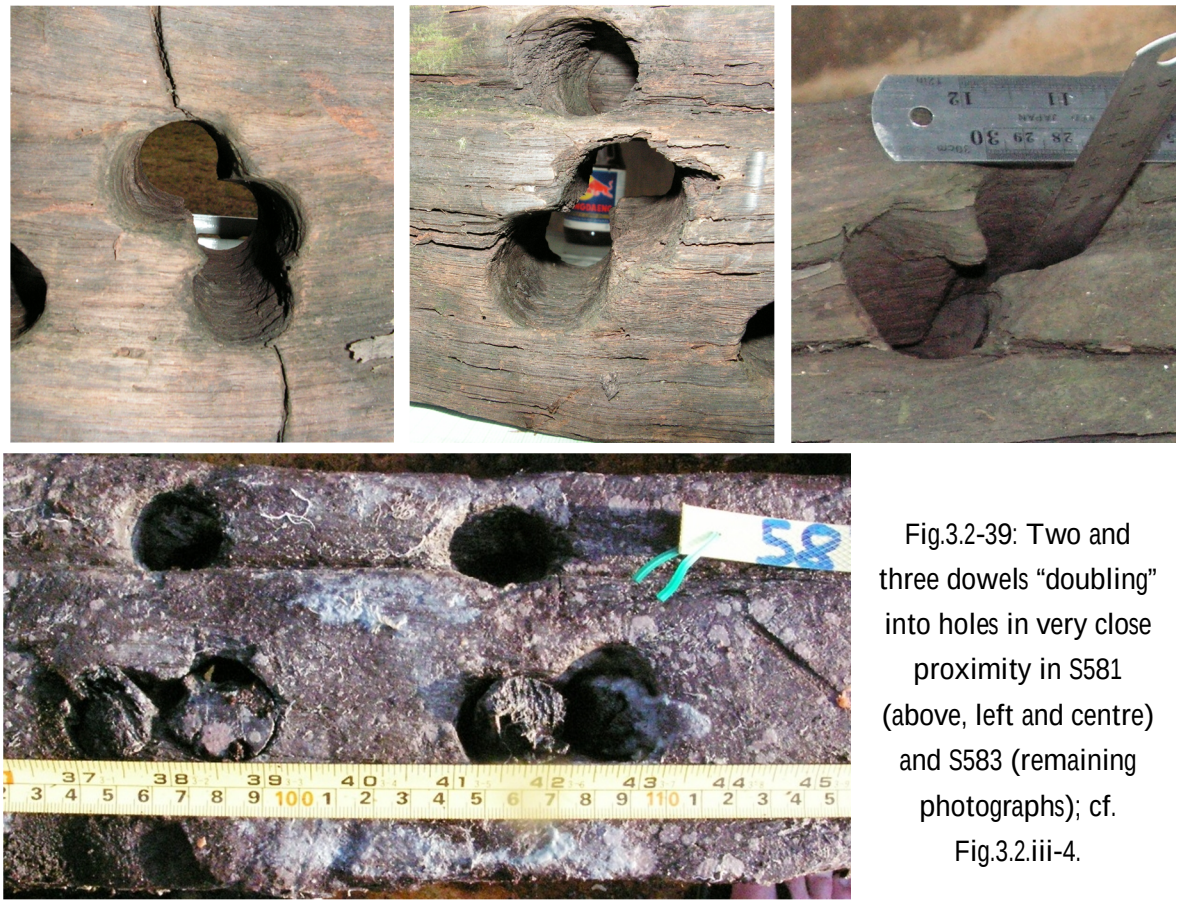


Fig.3.2-39: Two and three dowels "doubling" into holes in very close proximity in S581 (above, left and centre) and S583 (remaining photographs); cf. Fig.3.2.iii-4.

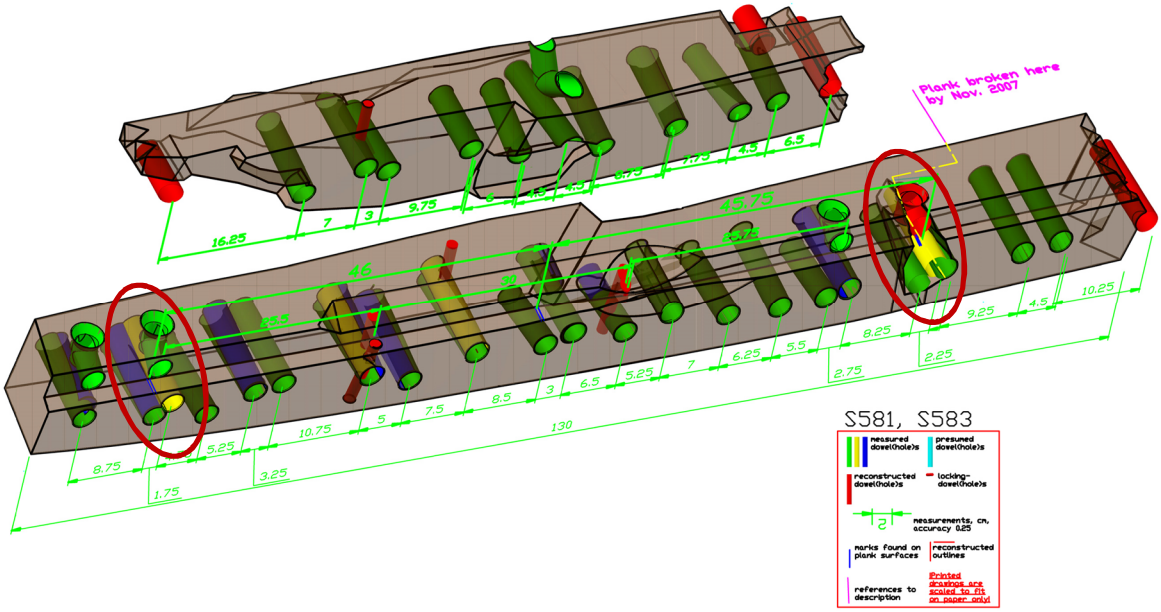


Fig.3.2-40: Fragments S581/3, a pair of type (i) planks, exploded. Prominent clusters of dowel holes marked with red circles.

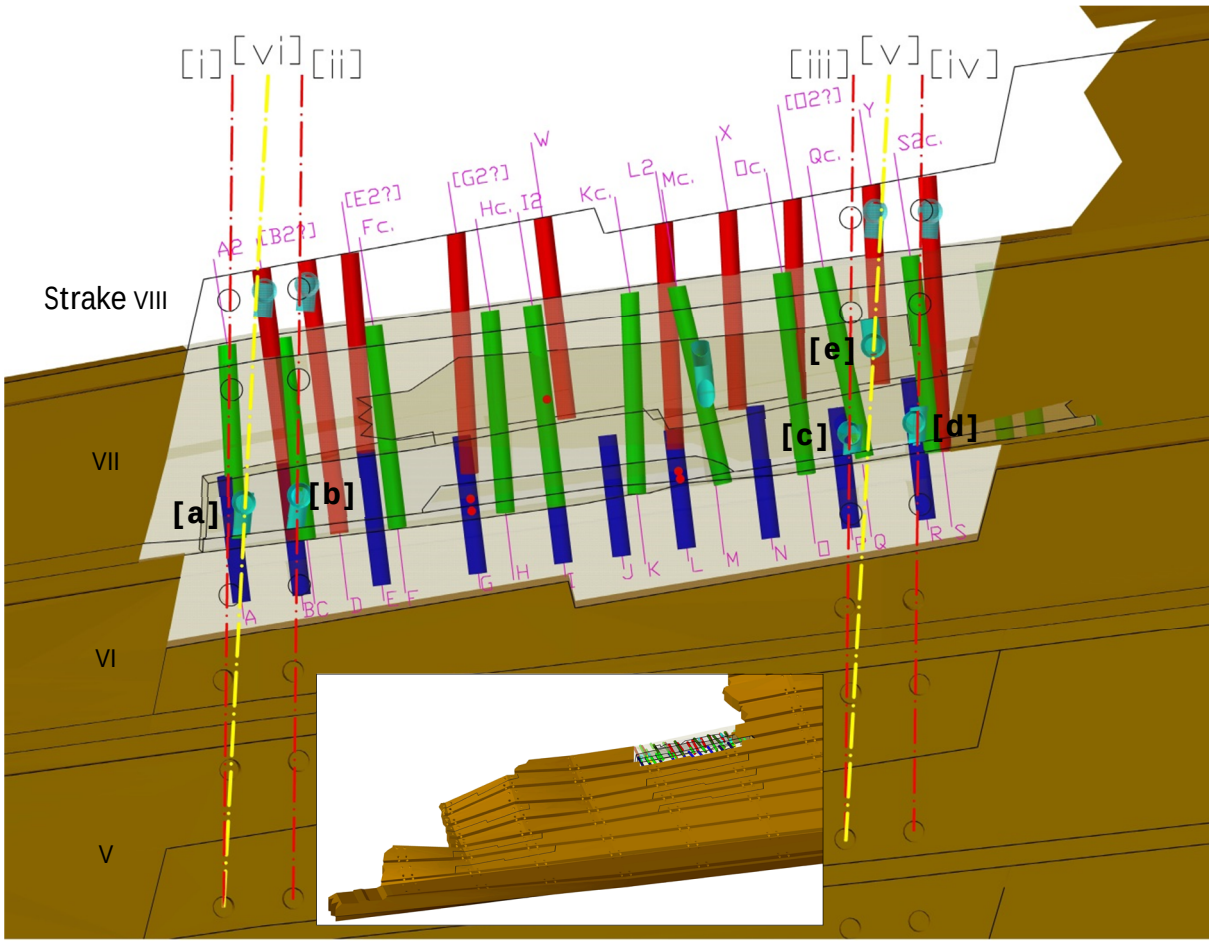


Fig.3.2-41: Dowel placement in S581/3 projected into 3D hull model; cf. App.3.2.iii.

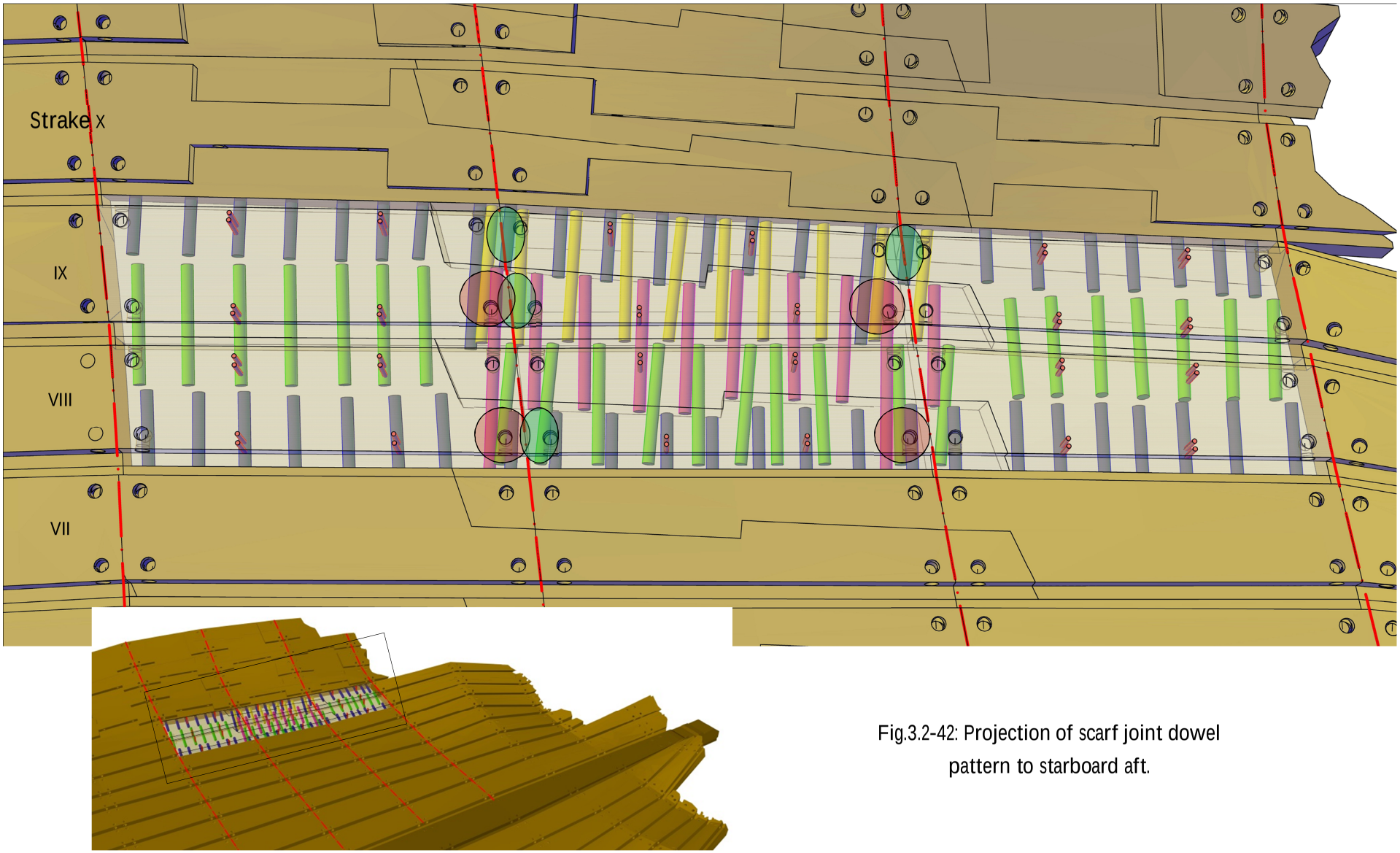


Fig.3.2-42: Projection of scarf joint dowel pattern to starboard aft.

Fig.3.2-43: Cluster of dowels under lashing rope hole (transparent yellow) in proximity to brace attached to planking, portside foreship (transparent red). Photograph courtesy F. Dobberphul.

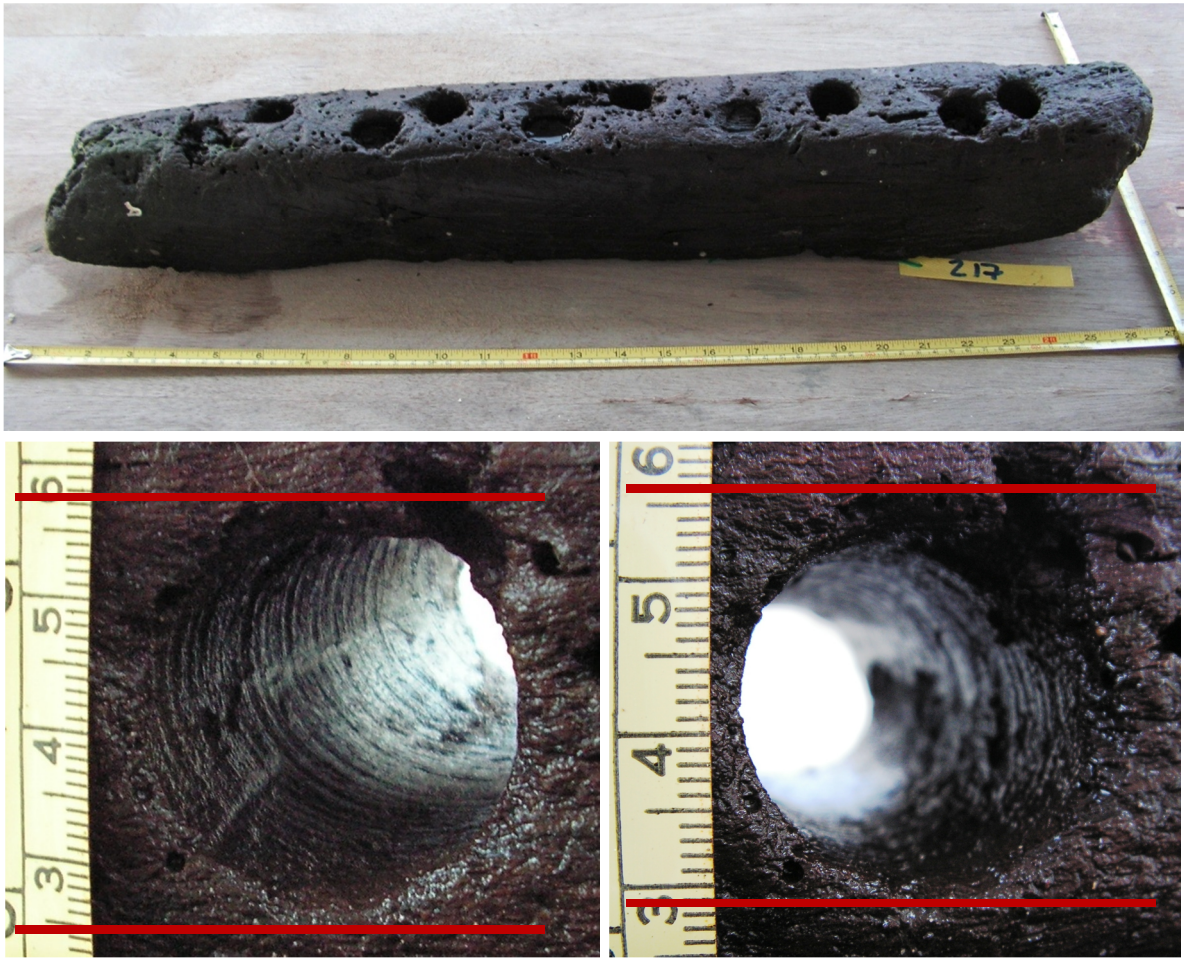


Fig.3.2-44: S217, diameter of dowel holes.

Fig.3.2-45: S217, proposed direction of drilling.

Fig.3.2-46: Square dowel, portside foreship. Photograph courtesy F. Dobberphul.

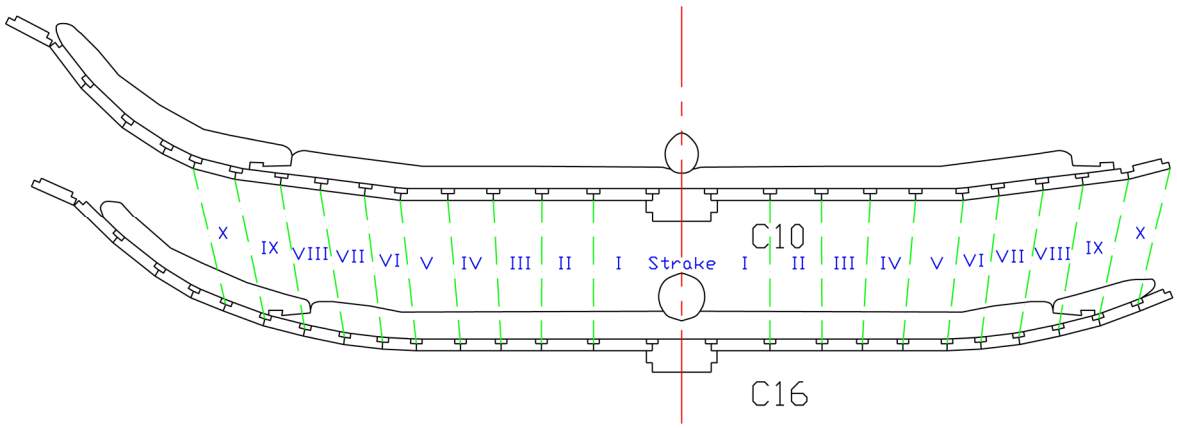


Fig.3.2-47: D. Visnikar's plots of frame sections C 10 and C16.

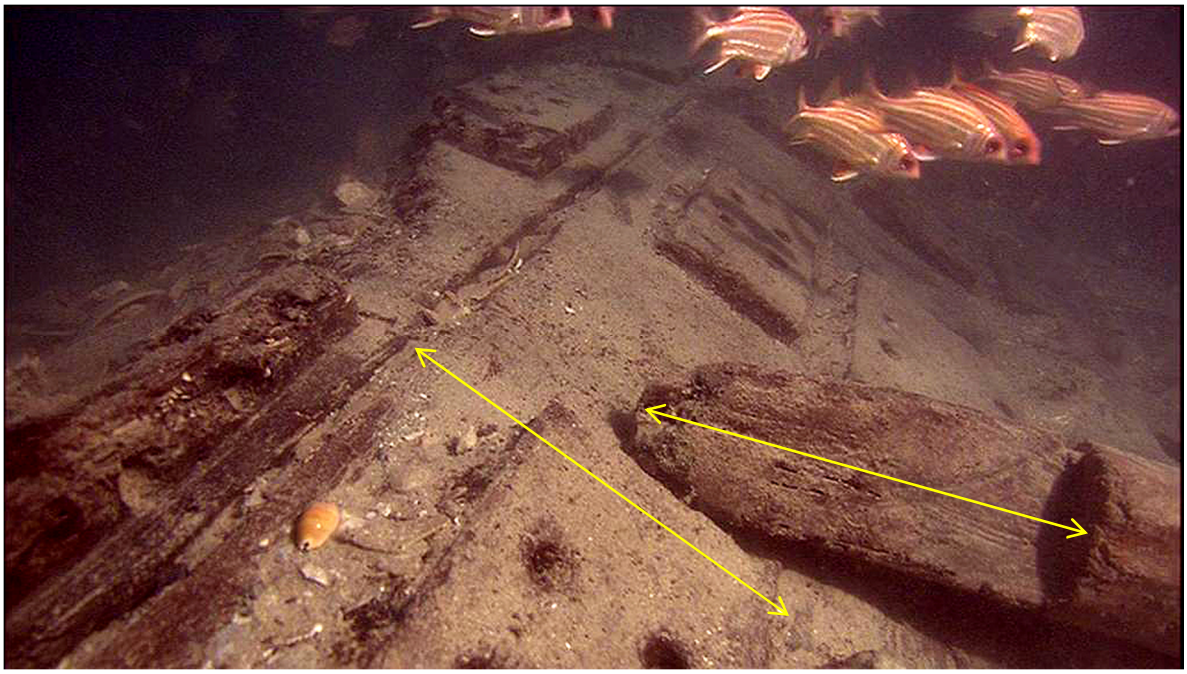


Fig.3.2-48: Remains of scarf on an unidentified frame fragment; length of remaining scarf face compared to width of the nearest plank.

Fig.3.2-49: Notches for, presumably, *tambuku* lugs in hullside surface of unidentified floor segment.

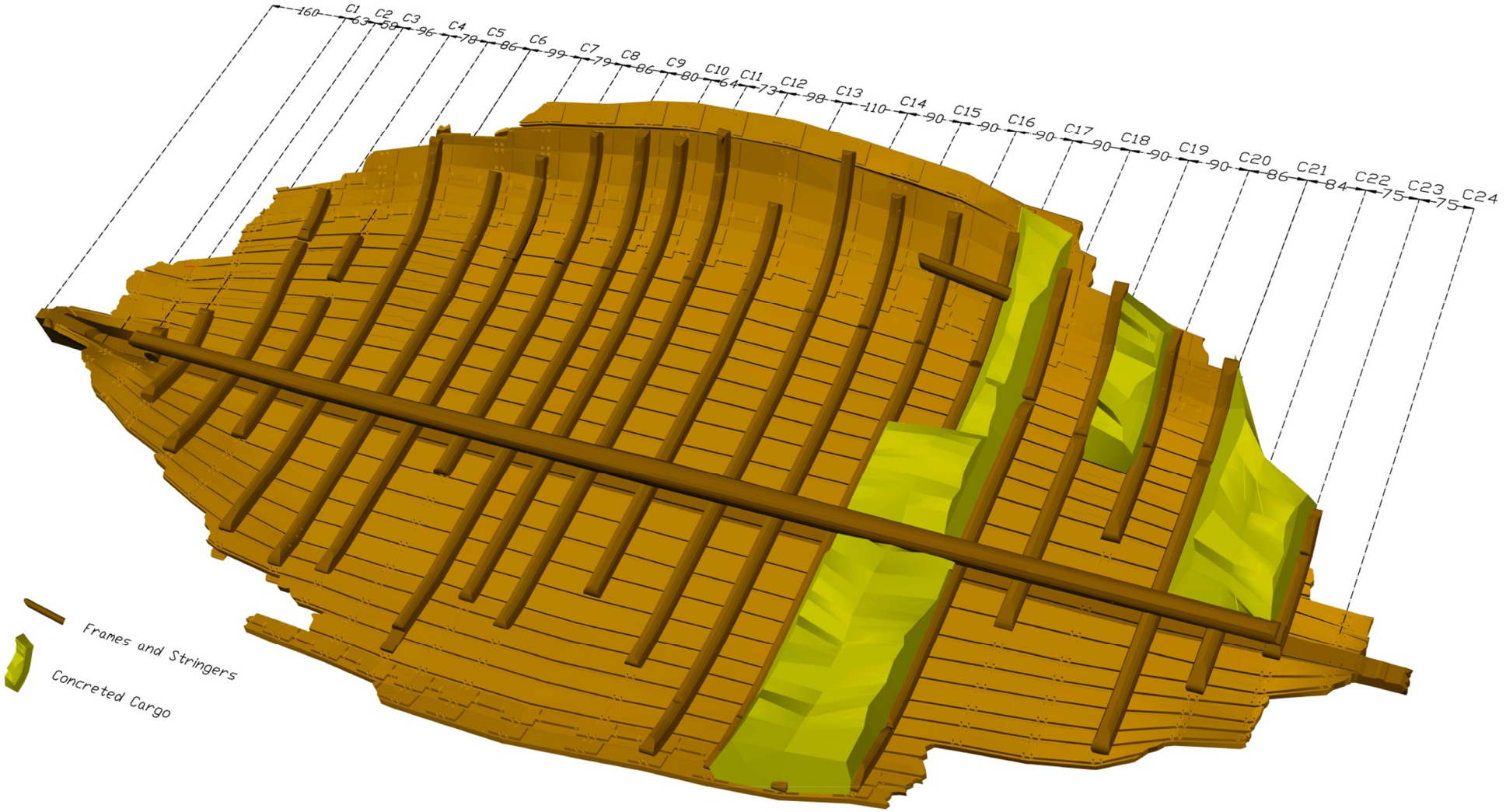


Fig.3.2-50: Remaining frames and keelson, Visnikar's measurements (cm).

Fig.3.2-51: Fragment of a frame; transparent yellow circle highlights remains of lashing rope. Photograph courtesy Cosmix BV.

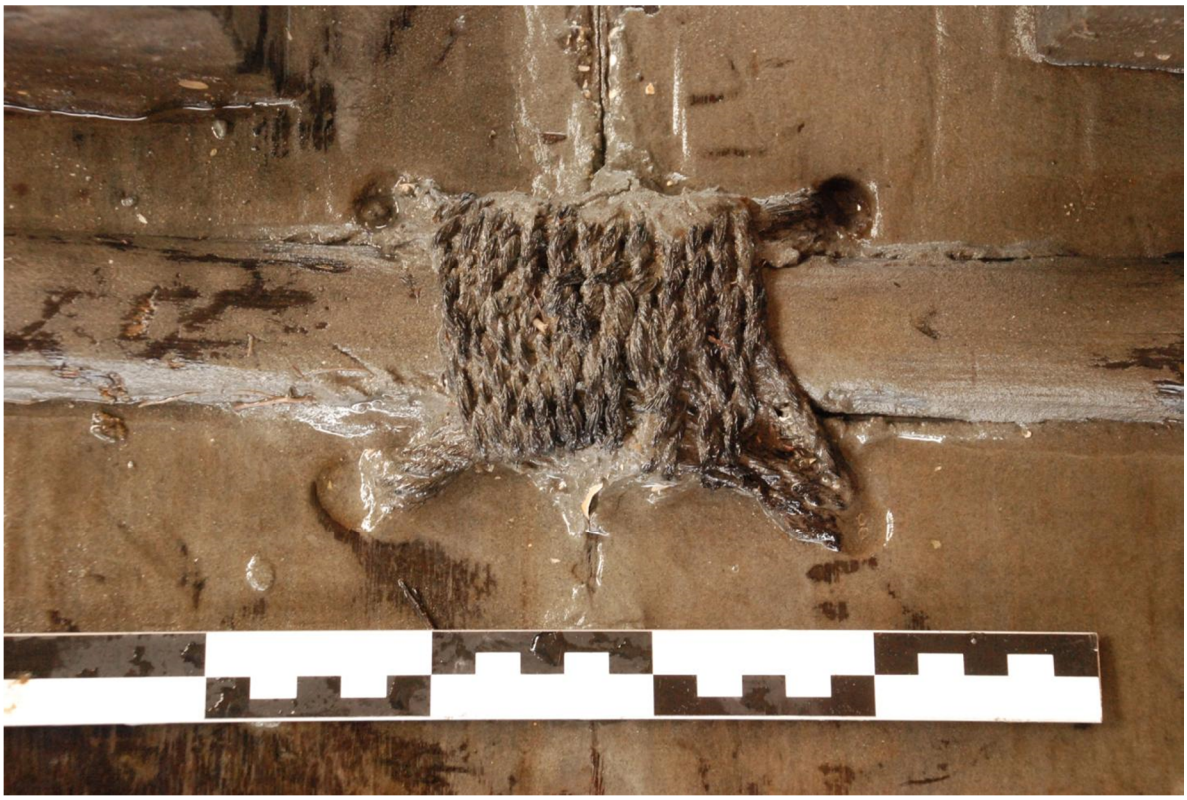


Fig.3.2-52: Lashings in Punjulharjo Wreck; Manguin 2009b: Slide 25.

Fig.3.2-53: Lashings of a floor timber in Punjulharjo Wreck; photograph by Zainab Tahir / Imam Fauzi 2008.

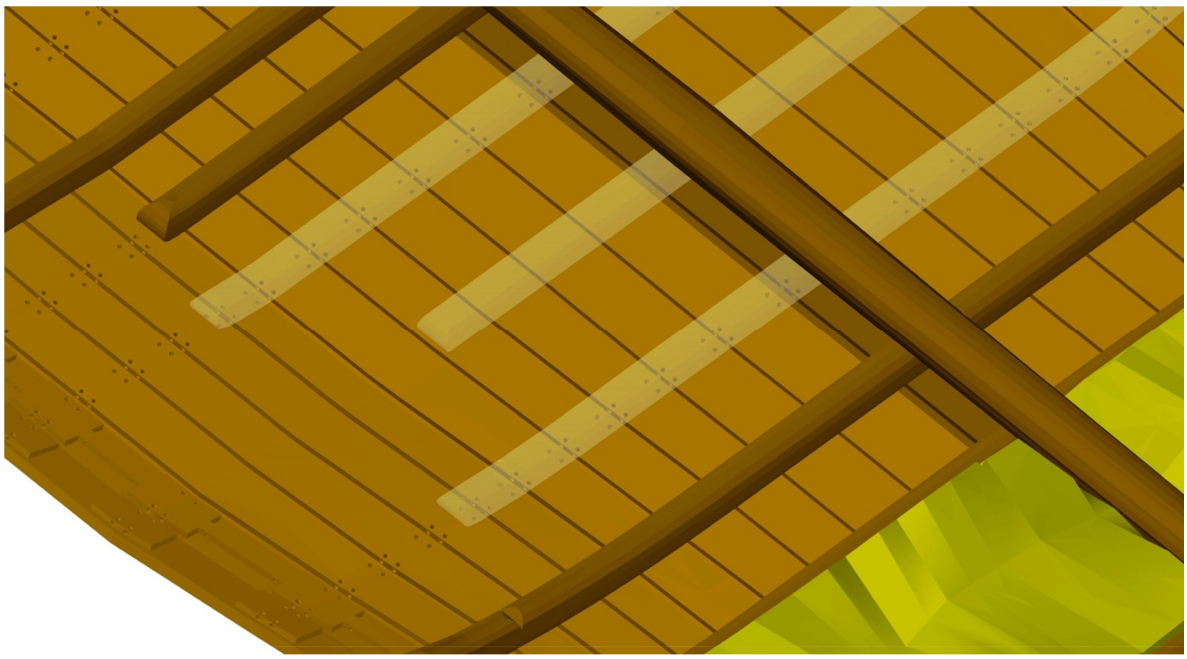


Fig.3.2-54: Lashing rope holes under frames C12-C14 (transparent), portside.

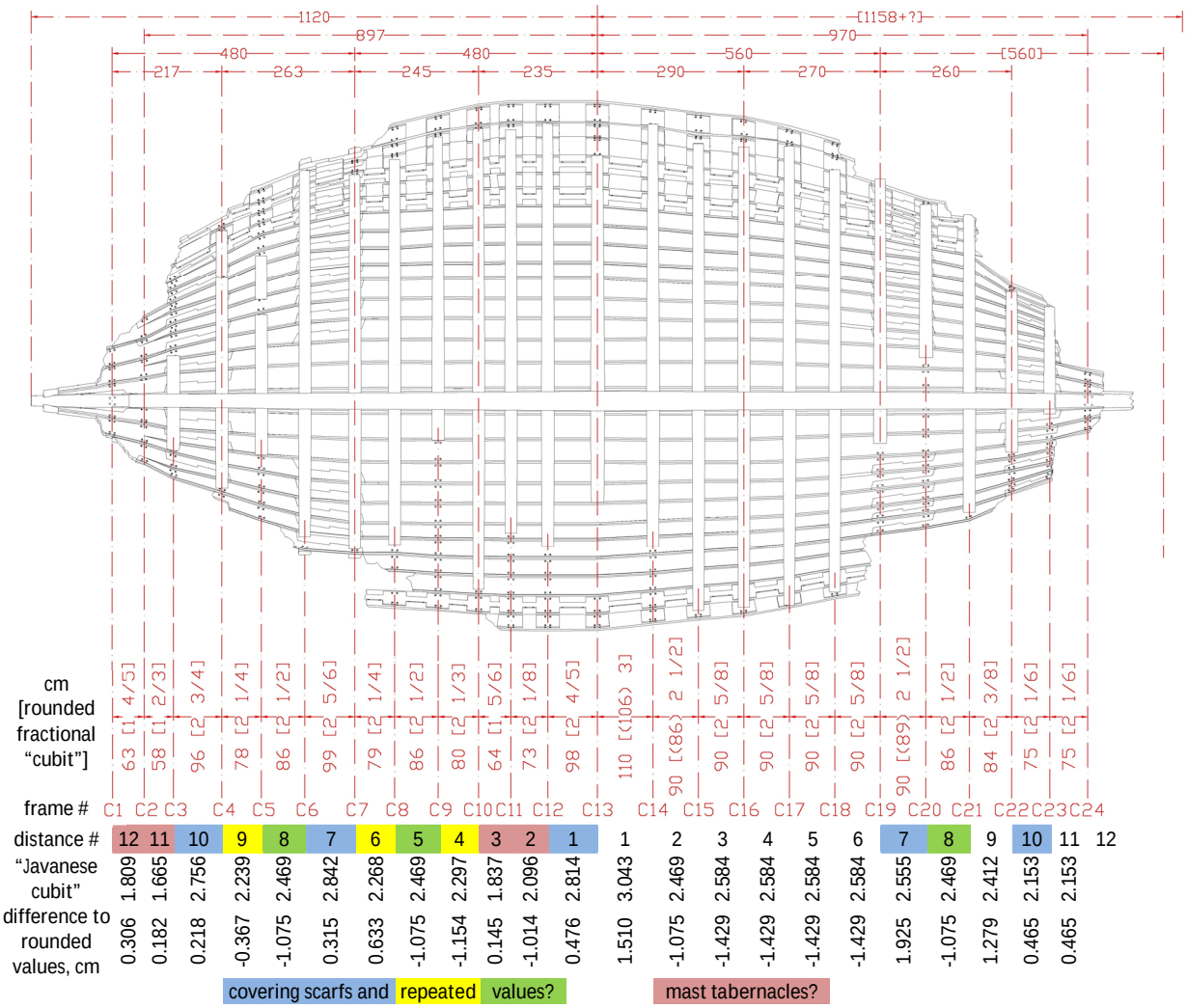


Fig.3.2-55: Measurements of frames, cm and "Javanese cubit"; numbers in rounded brackets mark measurements taken on samples.

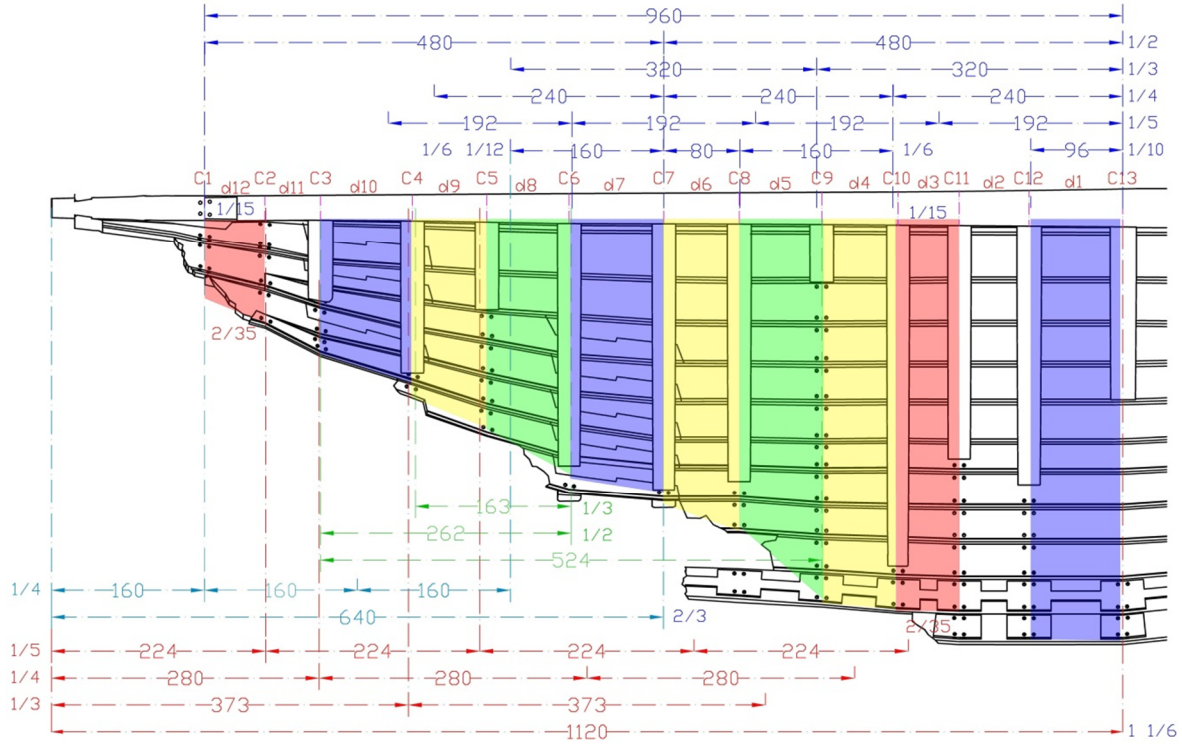


Fig.3.2-56: Foreship portside, "relational" measurements.

d	*overall*	*bow-*	*12*	*11*	*10*	*9*	*8*	*7*		*6*	*5*	*4*	*3*	*2*	*1*	*1*
	960/1120	160	63	58	96	78	86	99		79	86	80	64	73	98	106
960/dN	1 1/6	6	15 5/21	16 16/29	10	12 4/13	11 7/43	9 23/33		12 12/79	11 7/43	12	15	13 11/73	9 39/49	9 3/53
1120/dN	6/7	7	17 7/9	19 9/29	11 2/3	14 14/39	13 1/43	11 31/99		14 14/79	13 1/43	14	17 1/2	15 25/73	11 3/7	10 30/53
dN/960		1/6	21/320	29/480	1/10	13/160	43/480	33/320		79/960	43/480	1/12	1/15	73/960	49/480	53/480
dN/1120		1/7	9/160	29/560	3/35	39/560	43/560	83/939		62/879	43/560	1/14	2/35	38/583	7/80	53/560
[+/-cm]=d'			[+1]	[-2]		[+2]	[-2]	[+1]	[-3]	[+1]	[-2]			[-1]	[-2]	[+0.67]
d'N			64	56		80	84	100	96	80	84			72	96	106.667
960/d'N			15	17 1/7		12	11 3/7	9 3/5	10	12	11 3/7			13 1/3	10	9
1120/d'N			17 1/2	20		14	13 1/3	11 1/5	11 2/3	14	13 1/3			15 5/9	11 2/3	10 1/2
d'N/960			1/15	7/120		1/12	7/80	5/48	1/10	1/12	7/80			3/40	1/10	1/9
d'N/1120			2/35	1/20		1/14	3/40	5/56	3/35	1/14	3/40			9/140	3/35	2/21

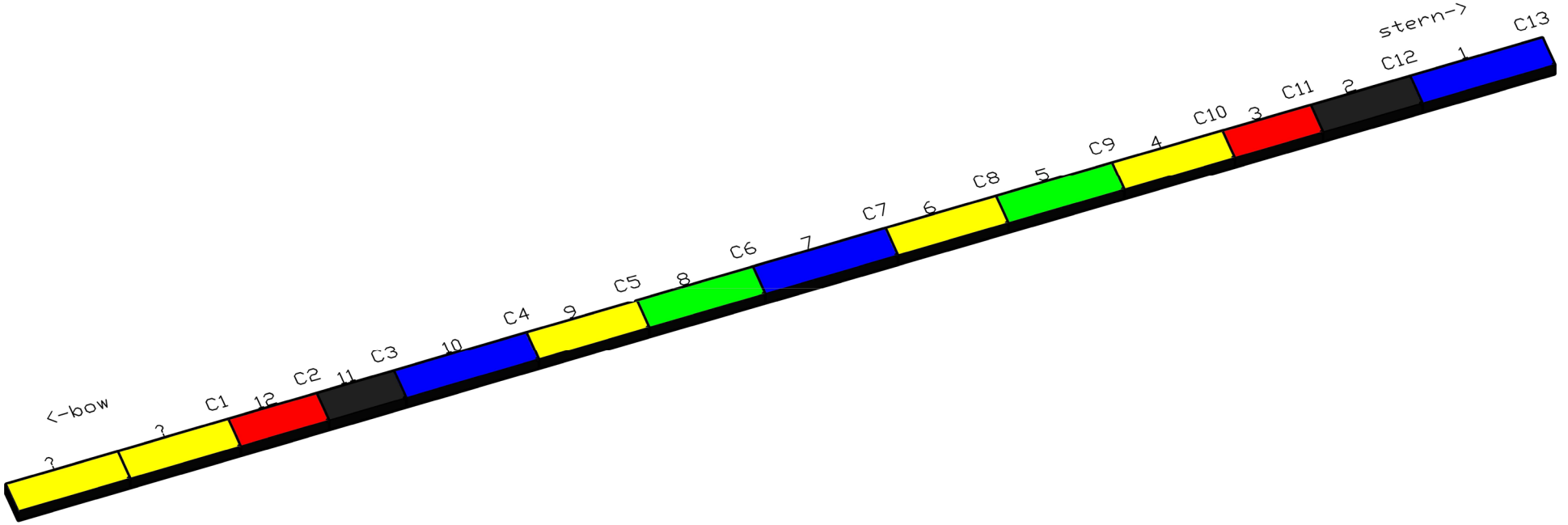


Fig.3.2-57: Distances between frame stations, cm and “relational” values.

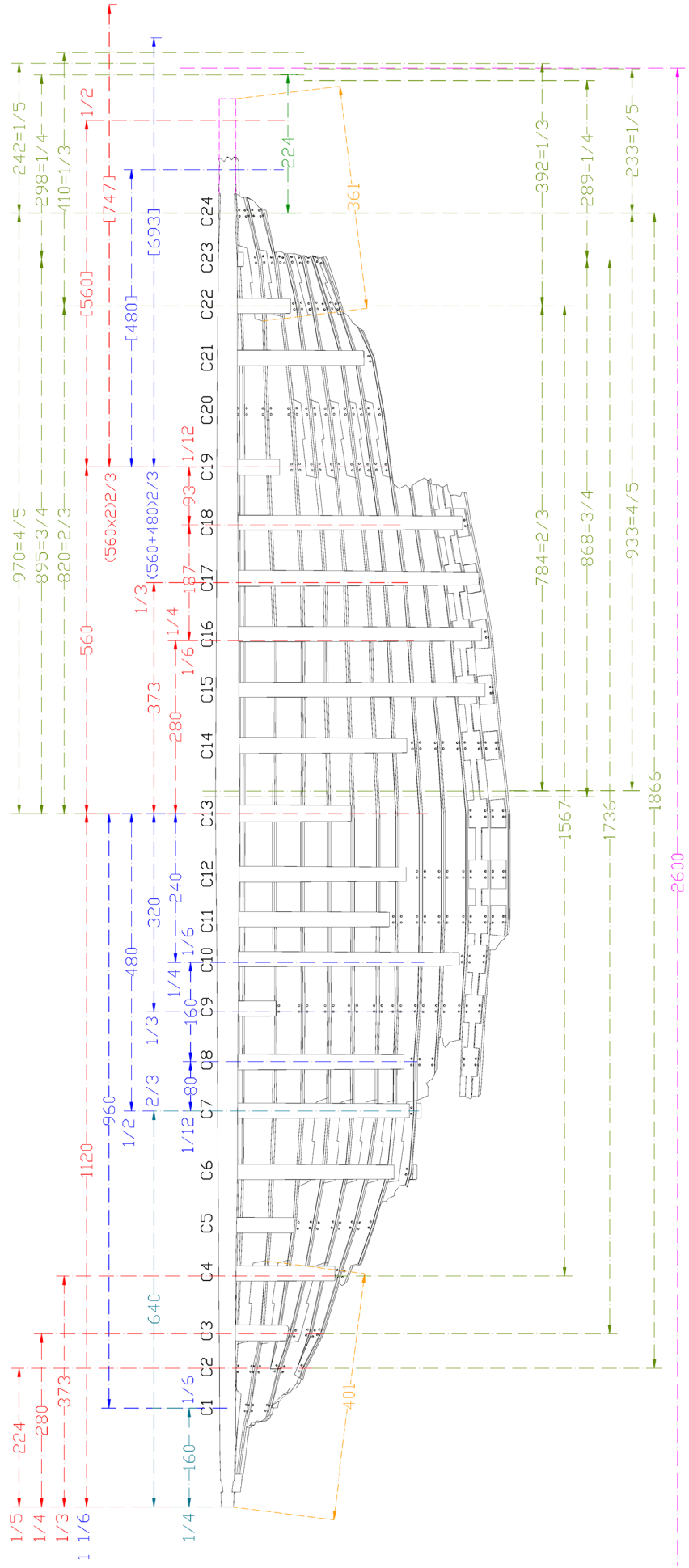


Fig. 3.2-58: Relational measurements, midships-aft [cm].

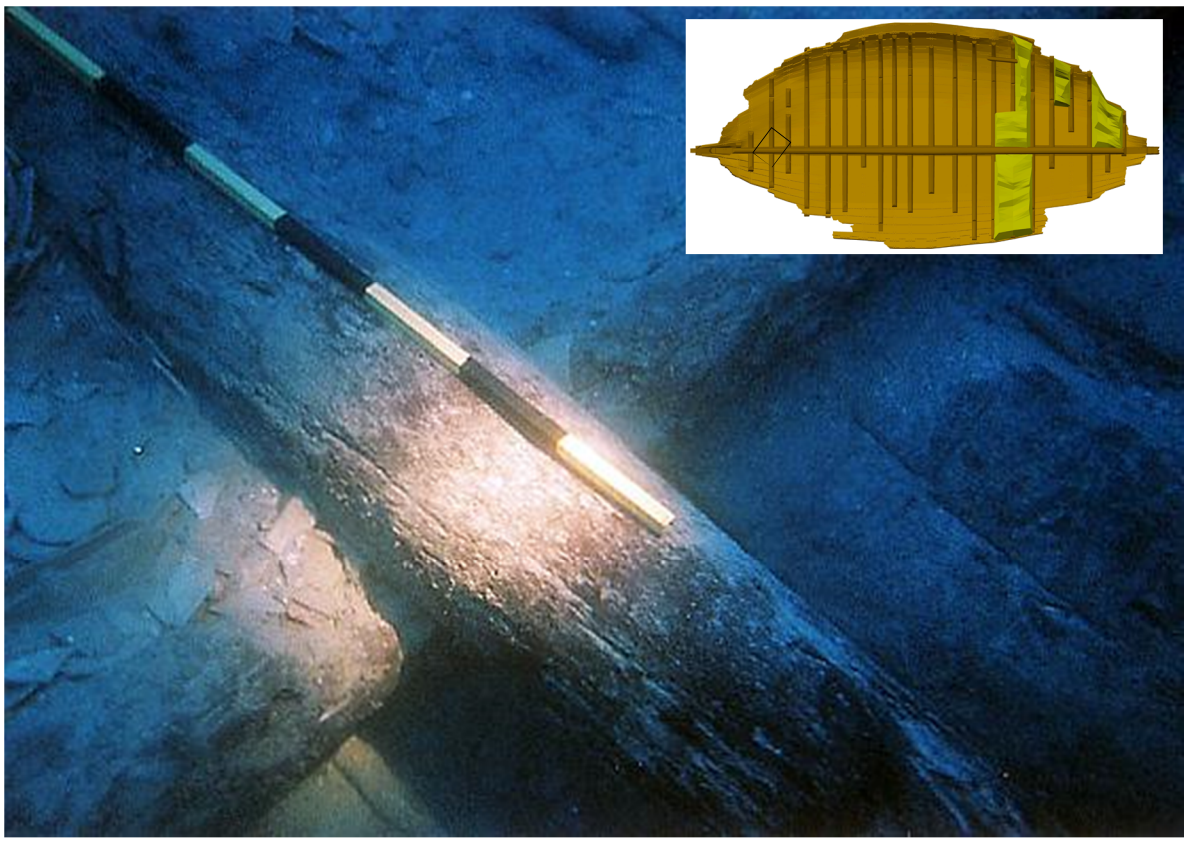


Fig.3.2-59: Keelson in foreship, October 2004.

Fig.3.2-60: Suggested stringers “above” strake X and XII; proposed turn of the bilge / bend planking marked with broken red line.

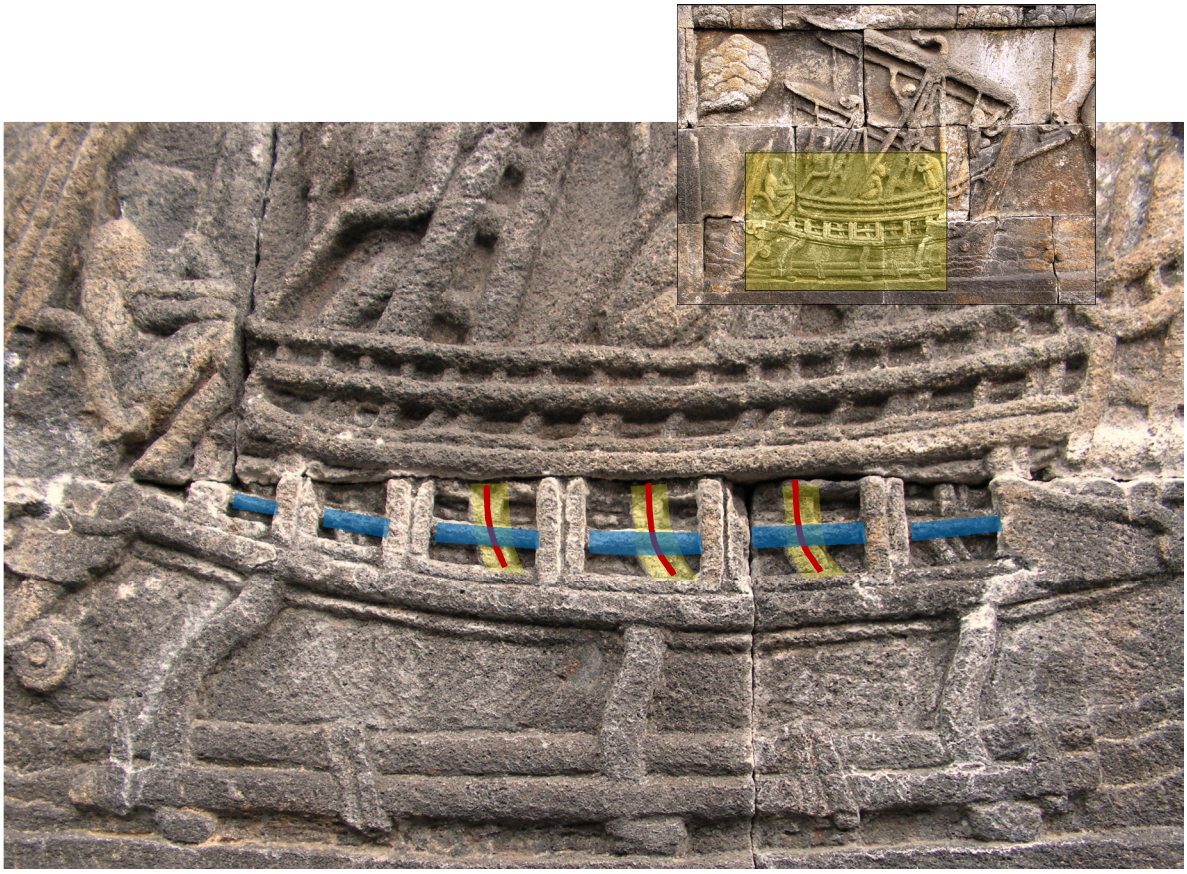


Fig.3.2-61: Borobudur, panel 1.53; stringer (transparent blue) placed over frames (transparent yellow) at about the bends (red line).

Fig.3.2-62: Two fragments of beams retaining lashing rope.

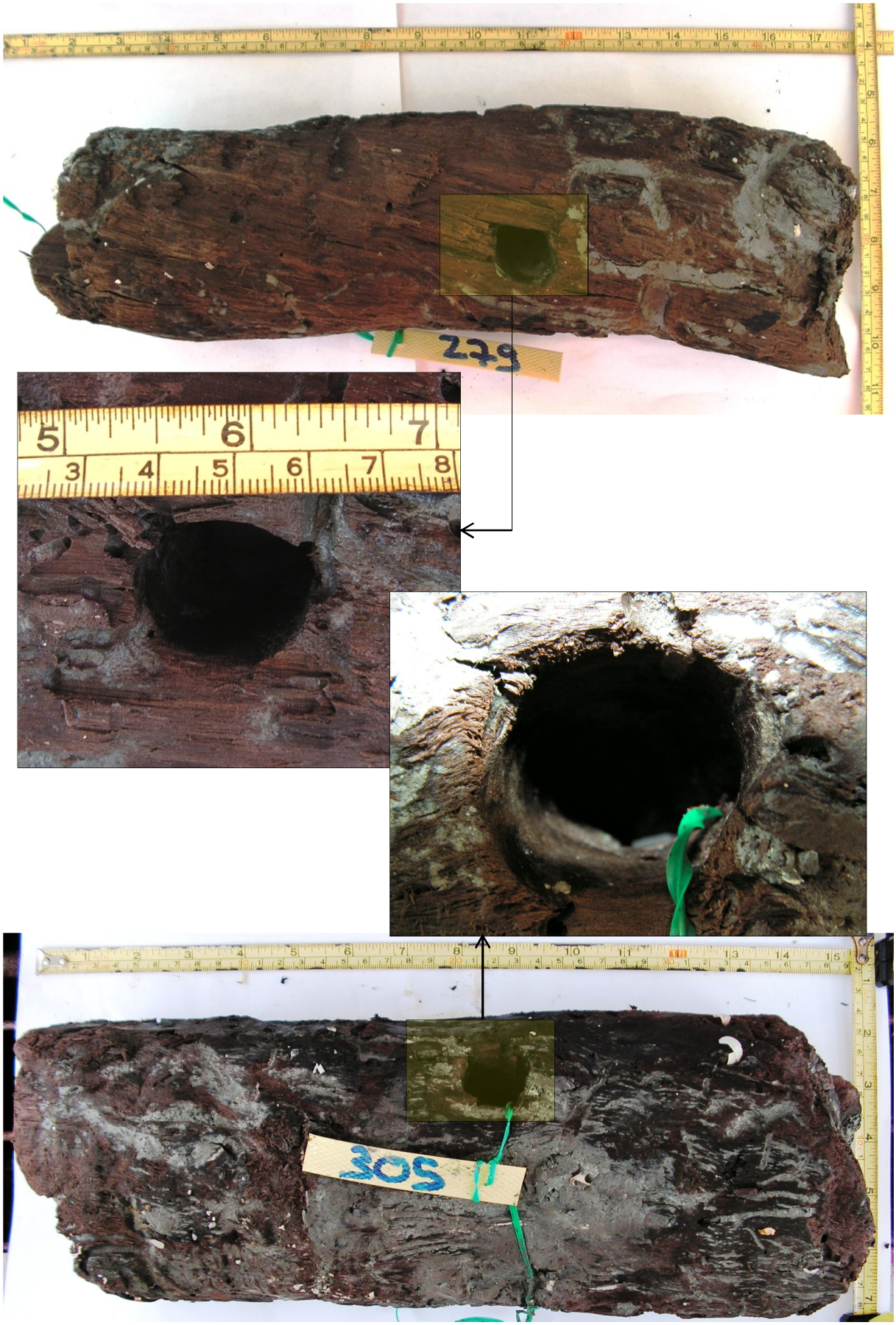


Fig.3.2-63: Two fragments of "holed" beams. For S279 was noted in the samples database, 'a beam with a hole (diameter 22 mm) for lashing rope: When opened, remains of the latter were found inside that hole. The hole seems to be drilled from either side, with depths of ca.37mm vs. 45 mm'.

Fig.3.2-64: Fragments of beams with indentations by rims of ceramics.

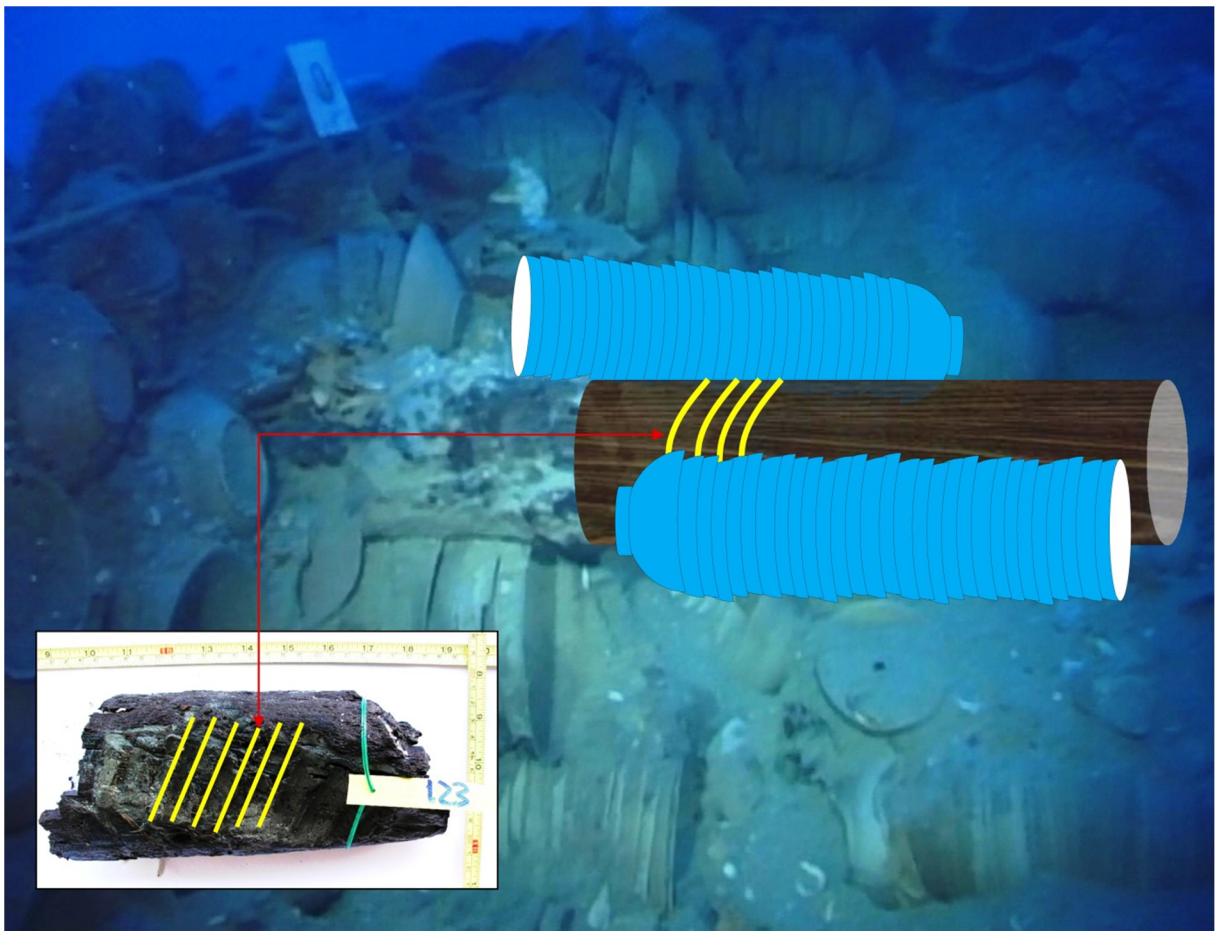


Fig.3.2-65: Indentations of rims of ceramics on fragments of beams; video capture (2004) courtesy Yves Gladu.

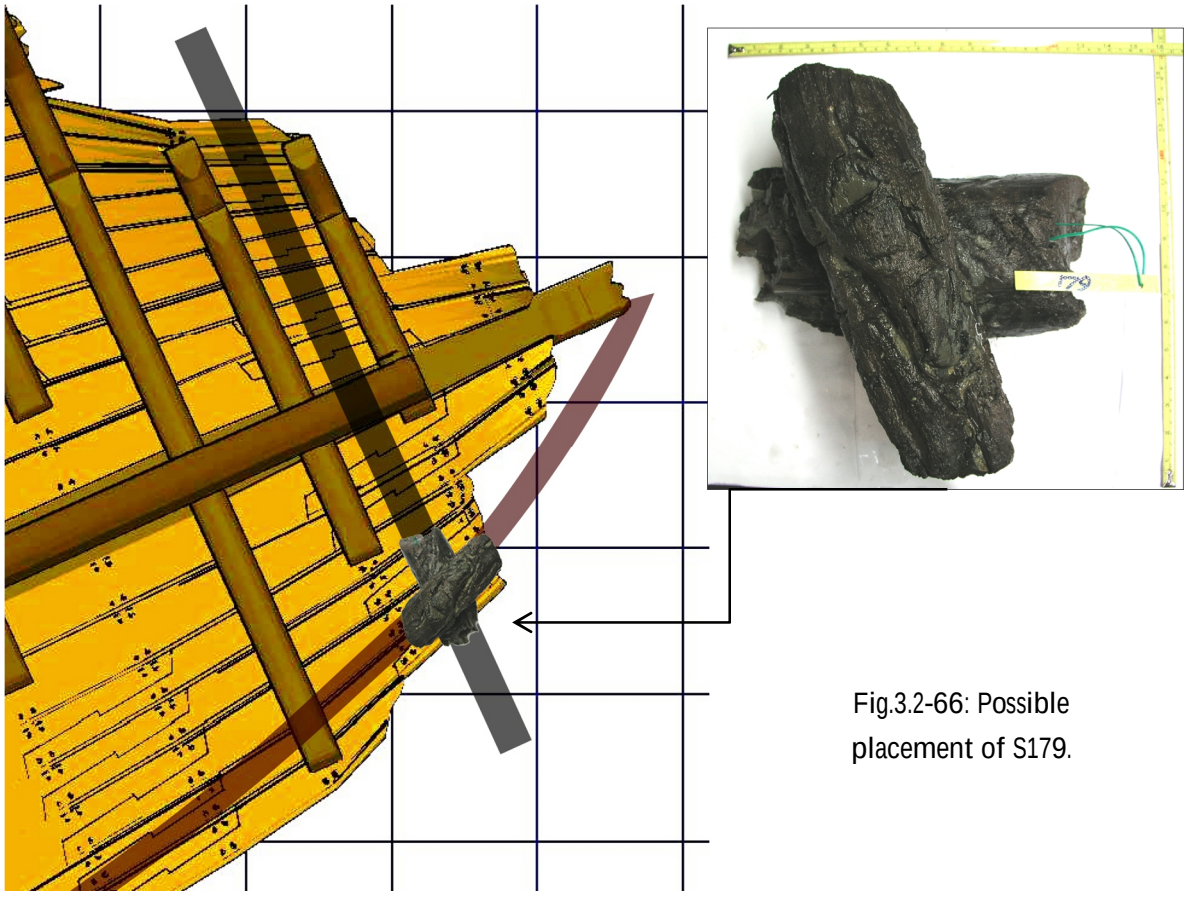


Fig.3.2-66: Possible placement of S179.

Fig.3.2-67: Inner strengthenings, Punjulharjo Wrack. Above: fragments of crossbeams and stanchions in aftship; below: frames, stringers holding forked stanchions, midships. Photographs courtesy Zainab Tahir and Imam Fauzi, 2008

Fig.3.2-68: Tree bark on S306.

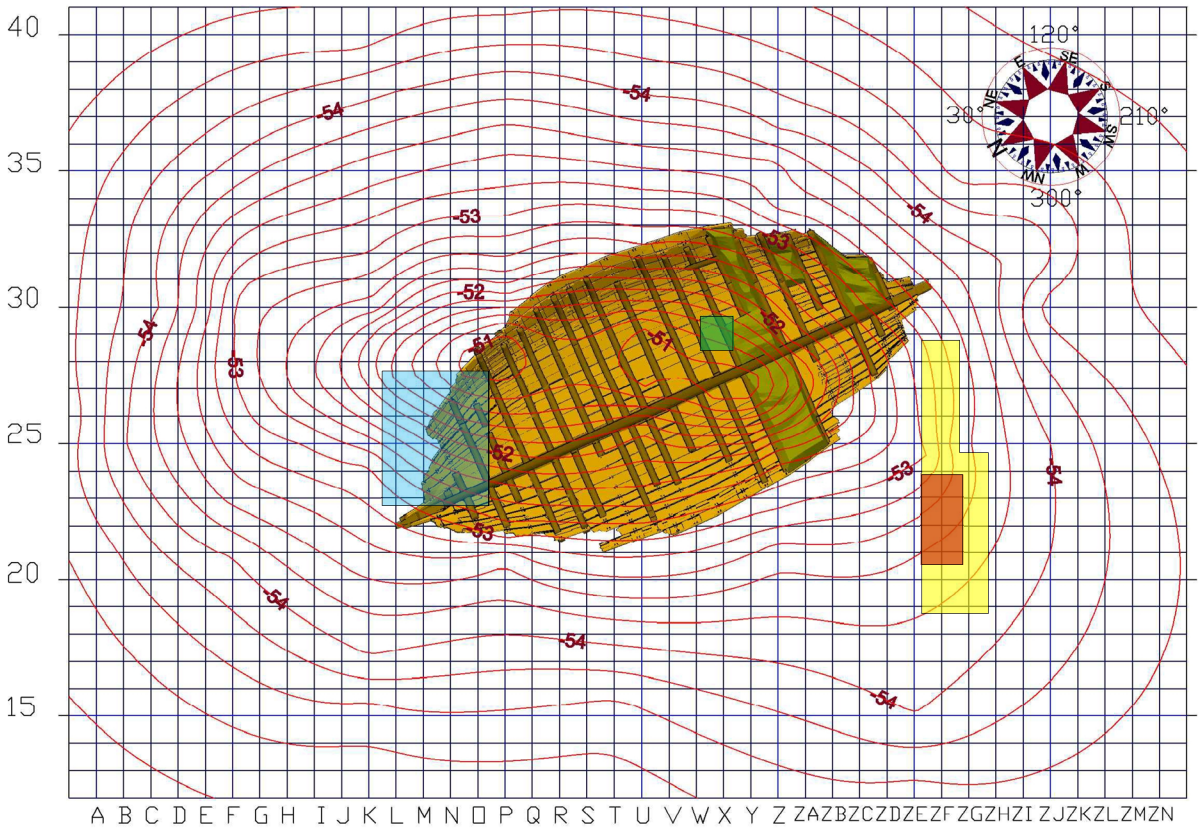
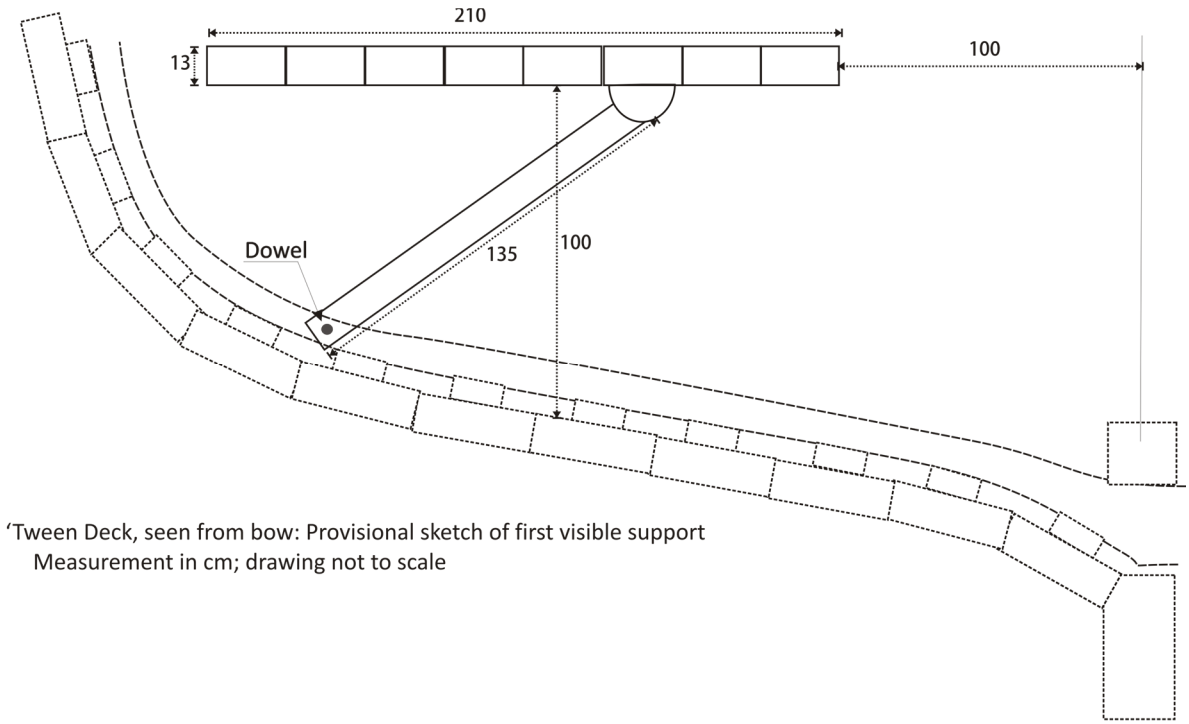


Fig.3.2-69: Grid records for possible deck plank fragments S113, S118 and S119 (transparent red); adjacent grid points with findings of fragments of beams (yellow); grids excavated on 50526, surfacing date of S30 (blue); position of S308 (green).



'Tween Deck, seen from bow: Provisional sketch of first visible support
Measurement in cm; drawing not to scale

Fig.3.2-70: Sketch of 'tween-deck and its supporting strut, 2005-05-29.

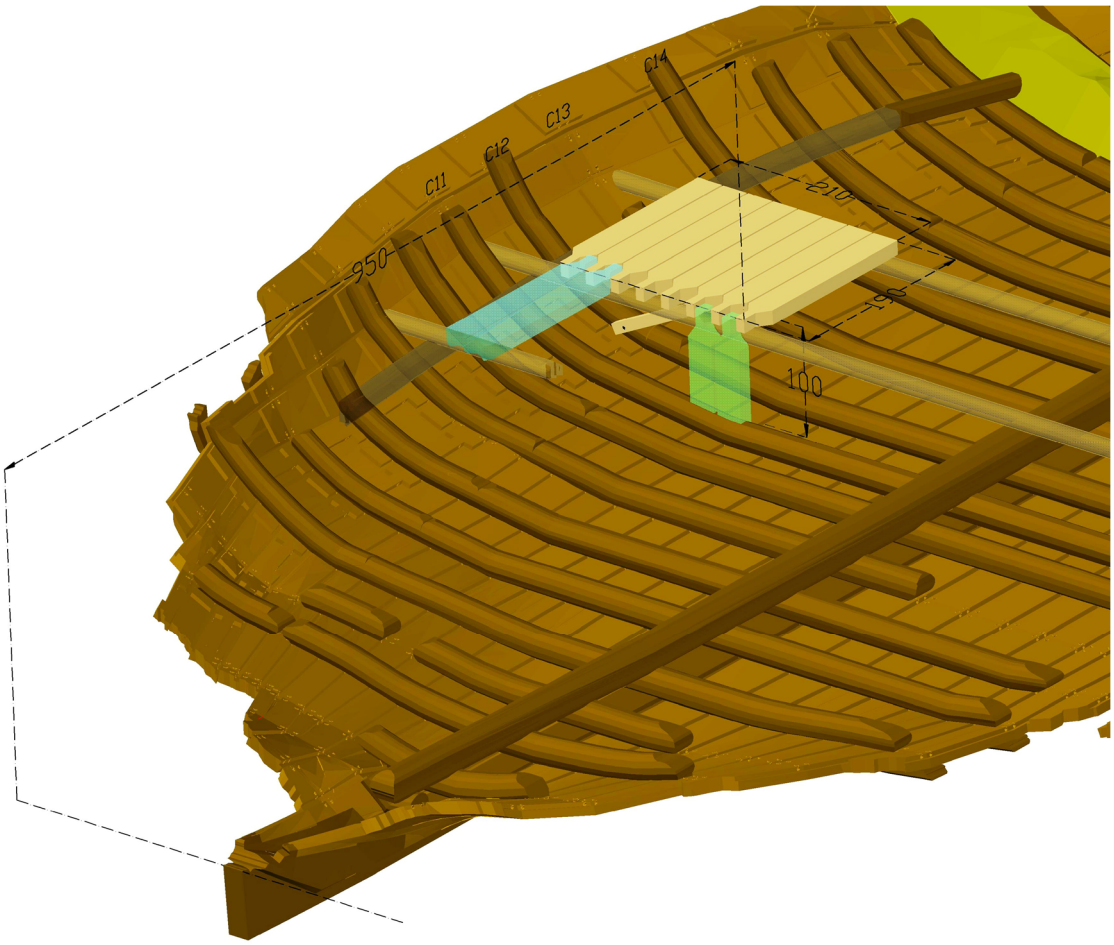


Fig.3.2-71: Proposed position of 'tween-deck (light brown) and its main supports (transparent). Transparent blue and green mark the two alternatives for the foreward part of the structure discussed in the text.

Fig.3.2-72: Square indentations in S30 (above), S574 (centre), S294 (below).

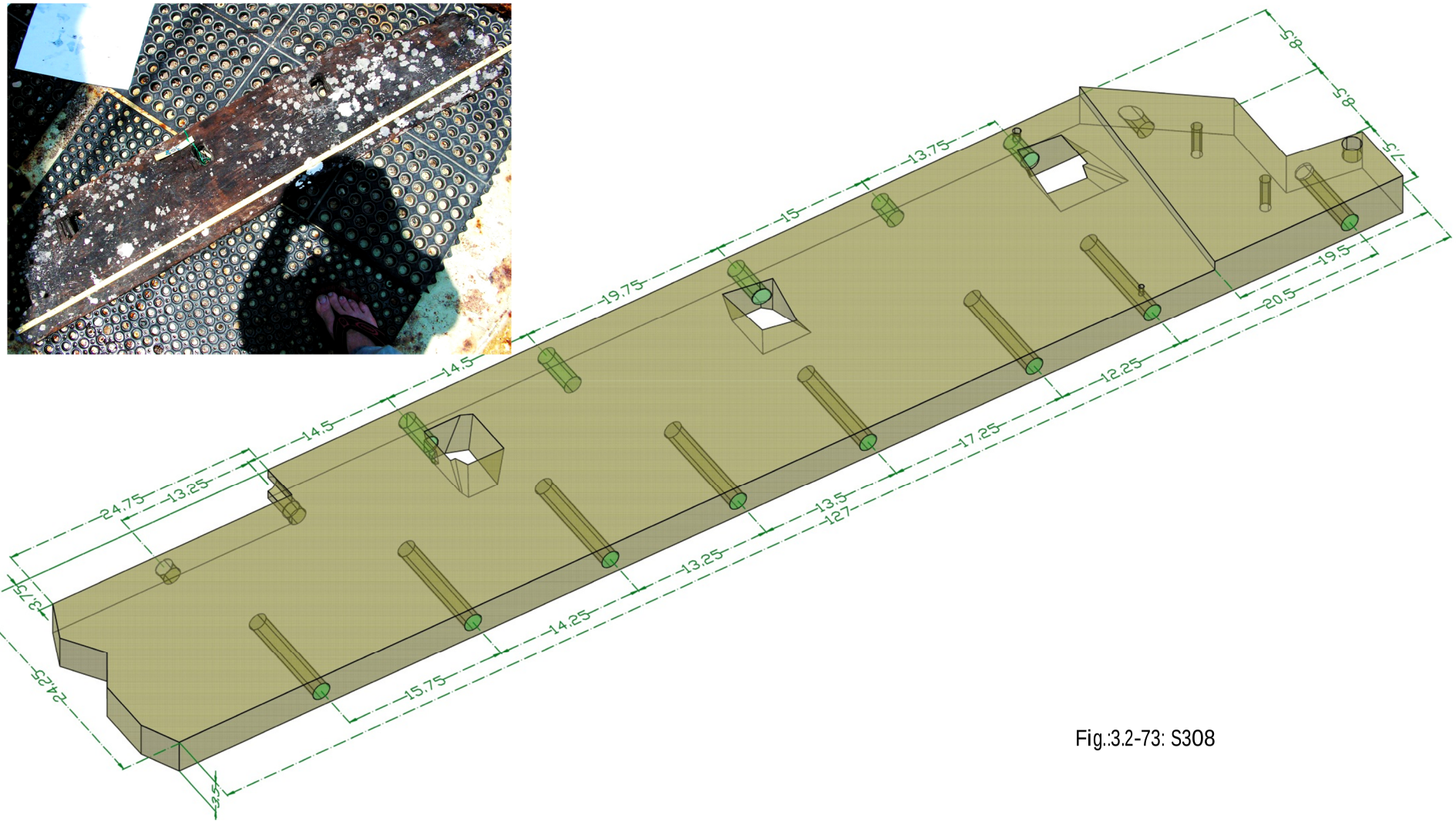
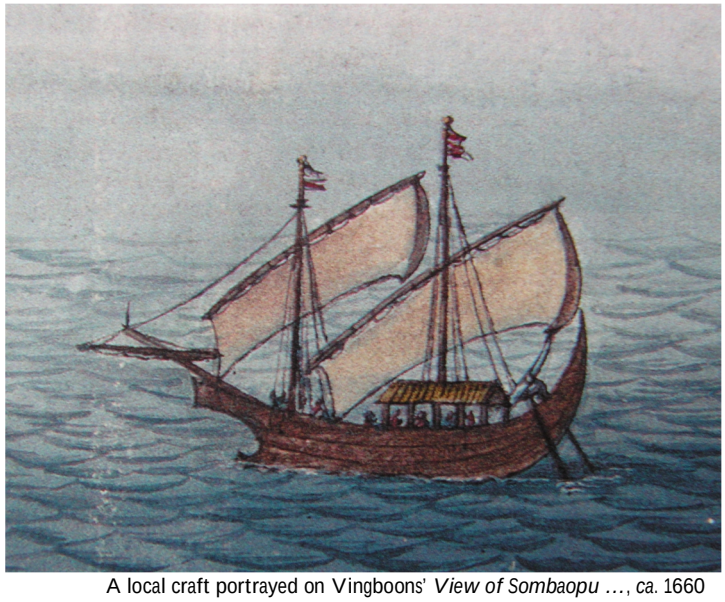


Fig.:3.2-73: S308

Fig.3.2-74: Square holes in S308.

3.3 Reconstruction



A local craft portrayed on Vingboons' *View of Sombaopu …*, *ca.* 1660

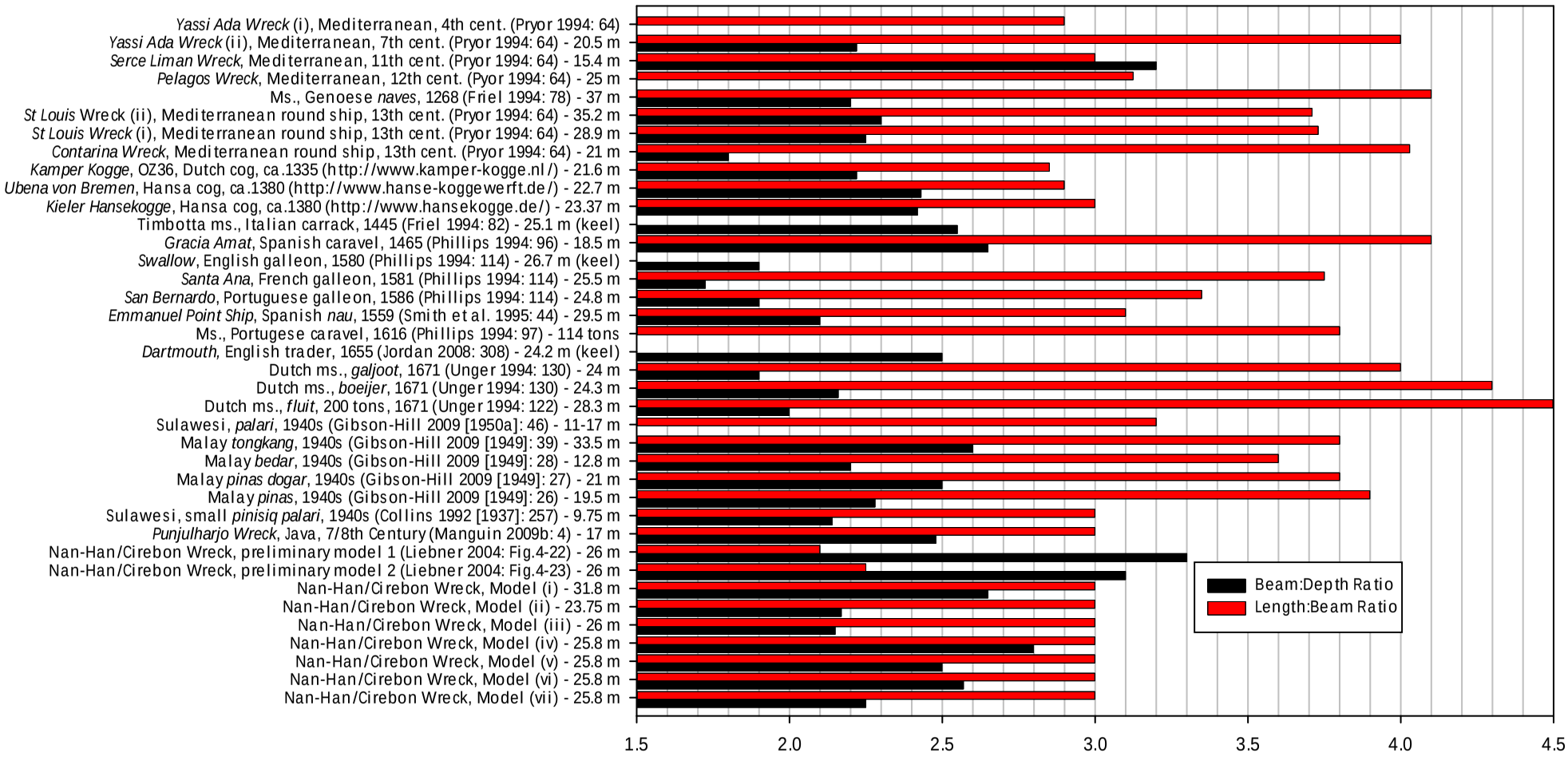


Fig.3.3-1: Length:beam and beam:depth ratios of vessels from archaeological, historic and ethnographic records. Where not noted otherwise, 'length' (the last entry in the description lines) should note "length over deck", and 'beam' the broadest beam of a vessel. 'Nan-Han/Cirebon Wreck (Model *n*)' refers to virtual models discussed further below.

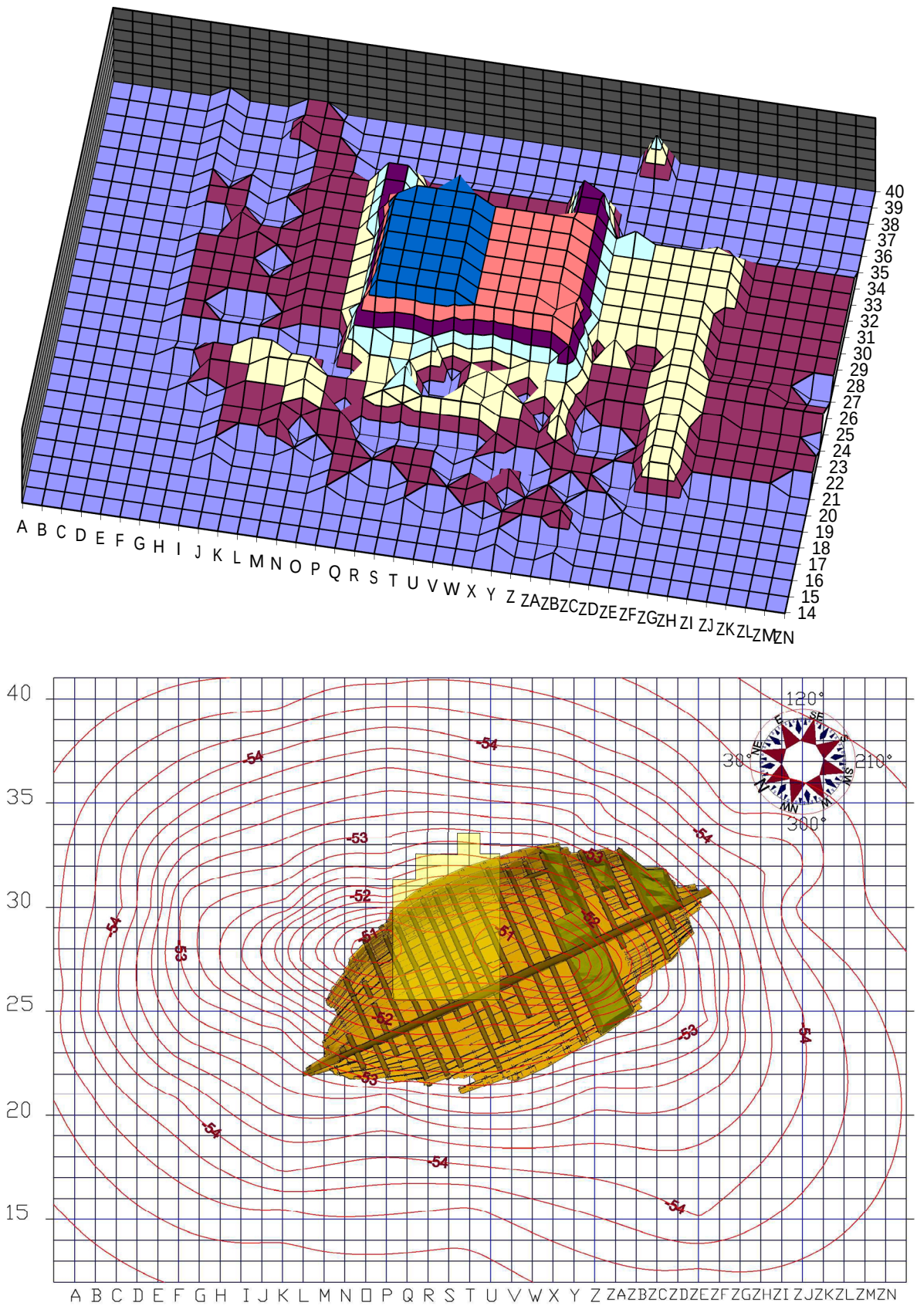


Fig.3.3-2: Highest recorded points of tumulus. Above, based on artefact database, stepped by 50 cm; below, gridpoints with |z=350 cm| (transparent yellow) projected onto initial bathymetric drawing / approximate position of the vessel's remains.

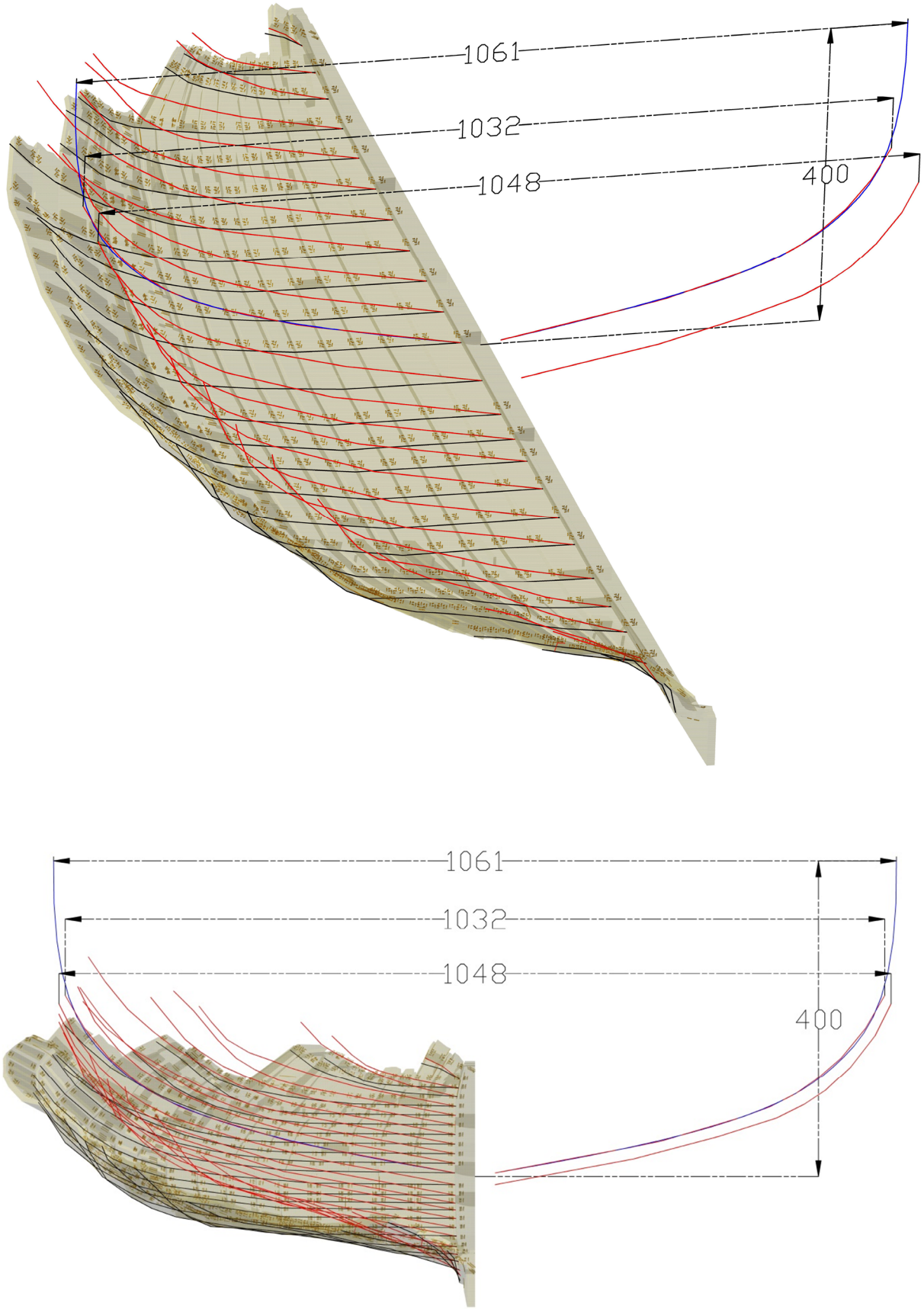


Fig.3.3-3: Lines taken off weatherside of a 3D half model of the hull's remains (black); lines "adjusted" to an initial deadrise of 10^{o} (red); assumed main frame station, C14 (blue). All measurements in cm.

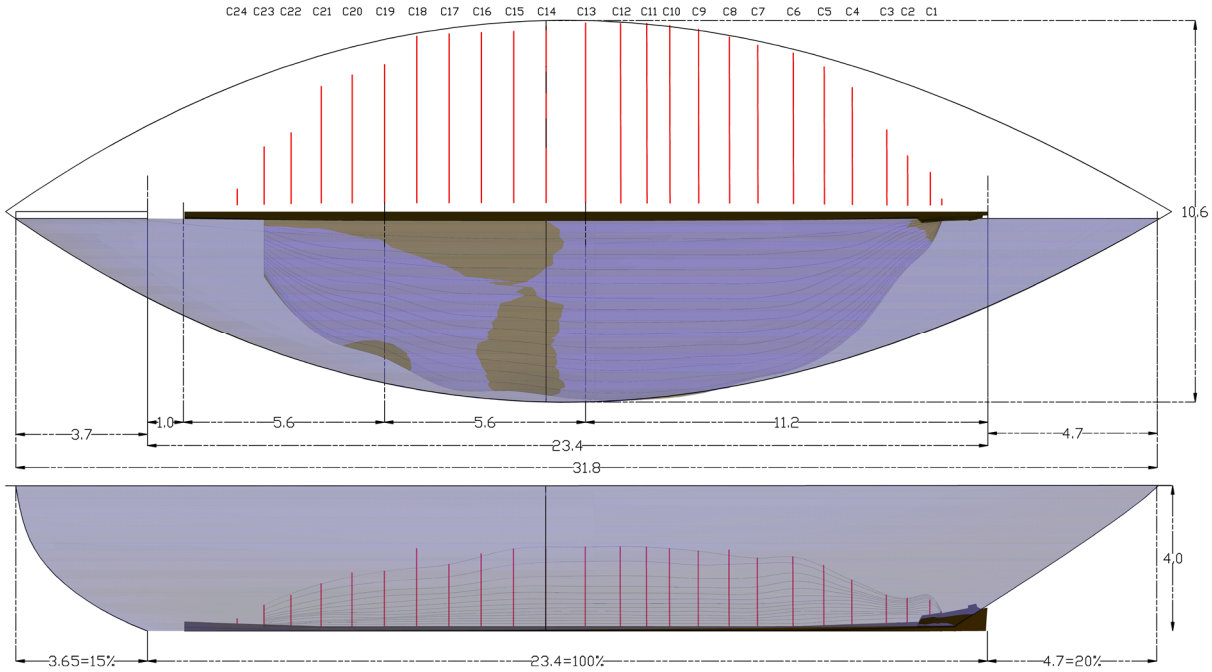


Fig.3.3-4: NURBS surface (transparent blue) of a hull model generated over assumed main frame profile at C14 and bow/stern profiles complying with a length:beam ratio of 3:1 and an initial deadrise of 10° (blue, non-transparent); surface (transparent brown; plank strakes outlined in thin black) and lines taken off the hull's remains and angled at 10° (red). Measurements in m.

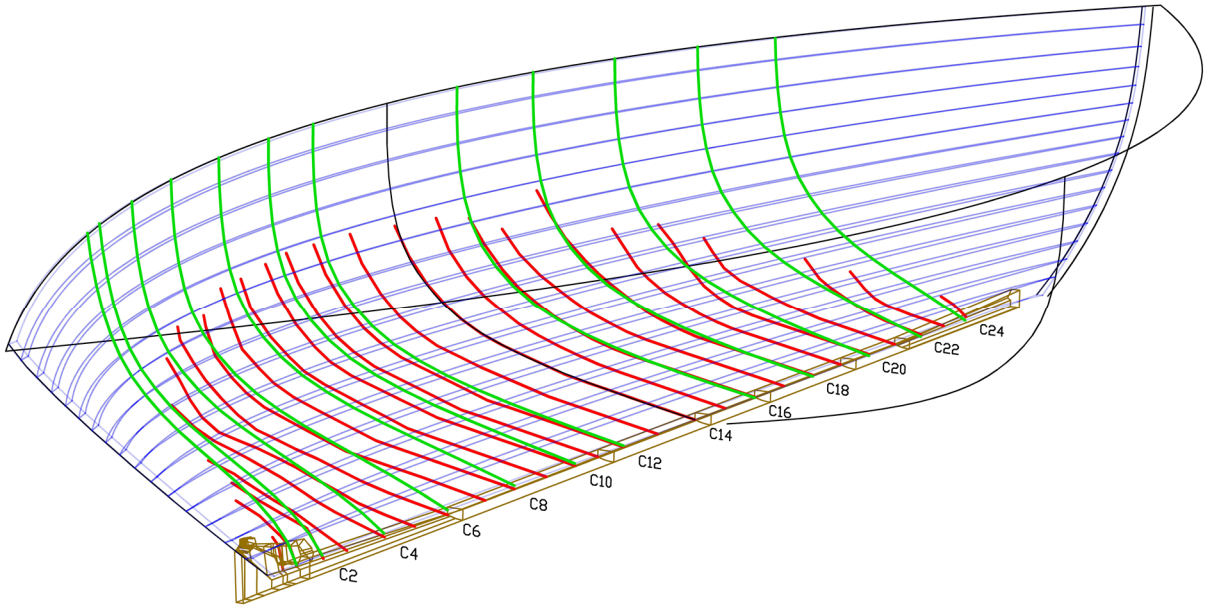


Fig.3.3-5: Perspective outline view of "solidified" NURBS surfaces (blue) based on the model in Fig.3.3-4, here following position of planks at bow-wing – assumed main frame C14 – aftship (black) and emulating 16 plank strakes; weatherside cross sections (green) taken off these surfaces at every second frame station; cross sections of site model at frame stations, angled to 10° deadrise (red).

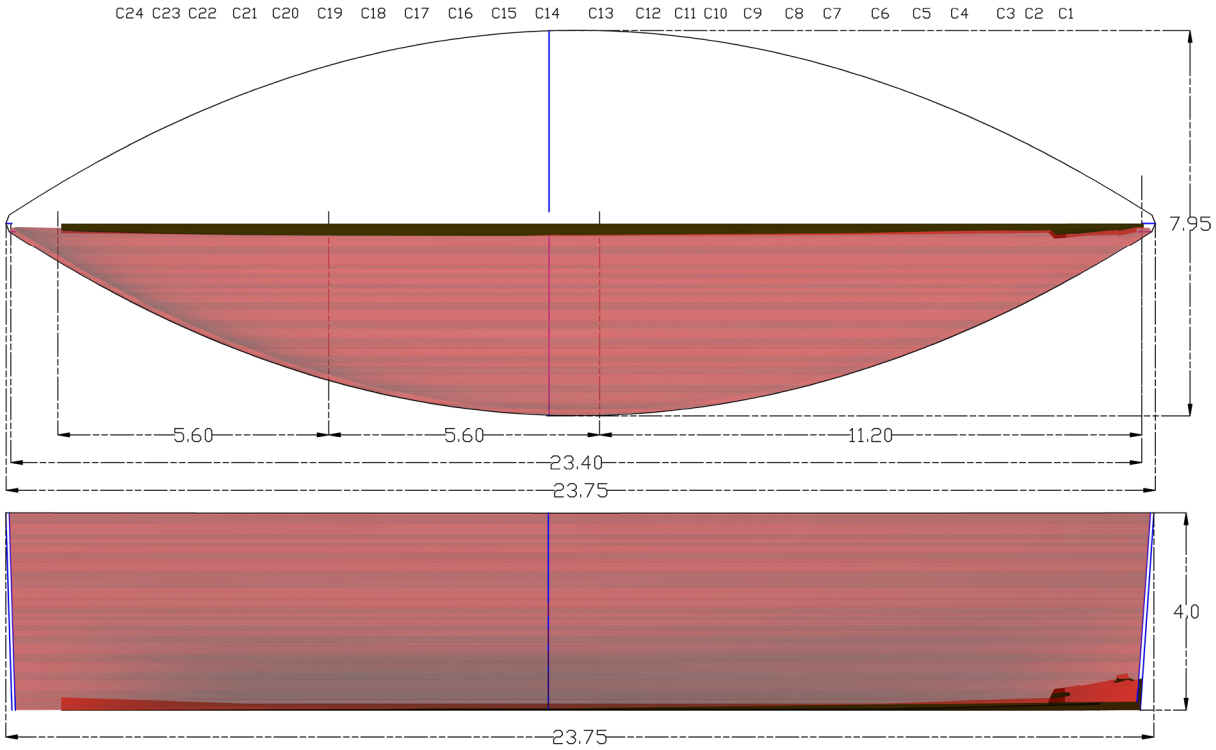


Fig.3.3-6: Hull model with plumb bow/stern profiles and a length beam:ratio of 3:1.

Fig.3.3-7: Punjulharjo wreck, from bow; photo by Imam Fauzi, 2008.

Fig.3.3-8: Punjulharjo wreck, from aft; photo by Imam Fauzi, 2008.

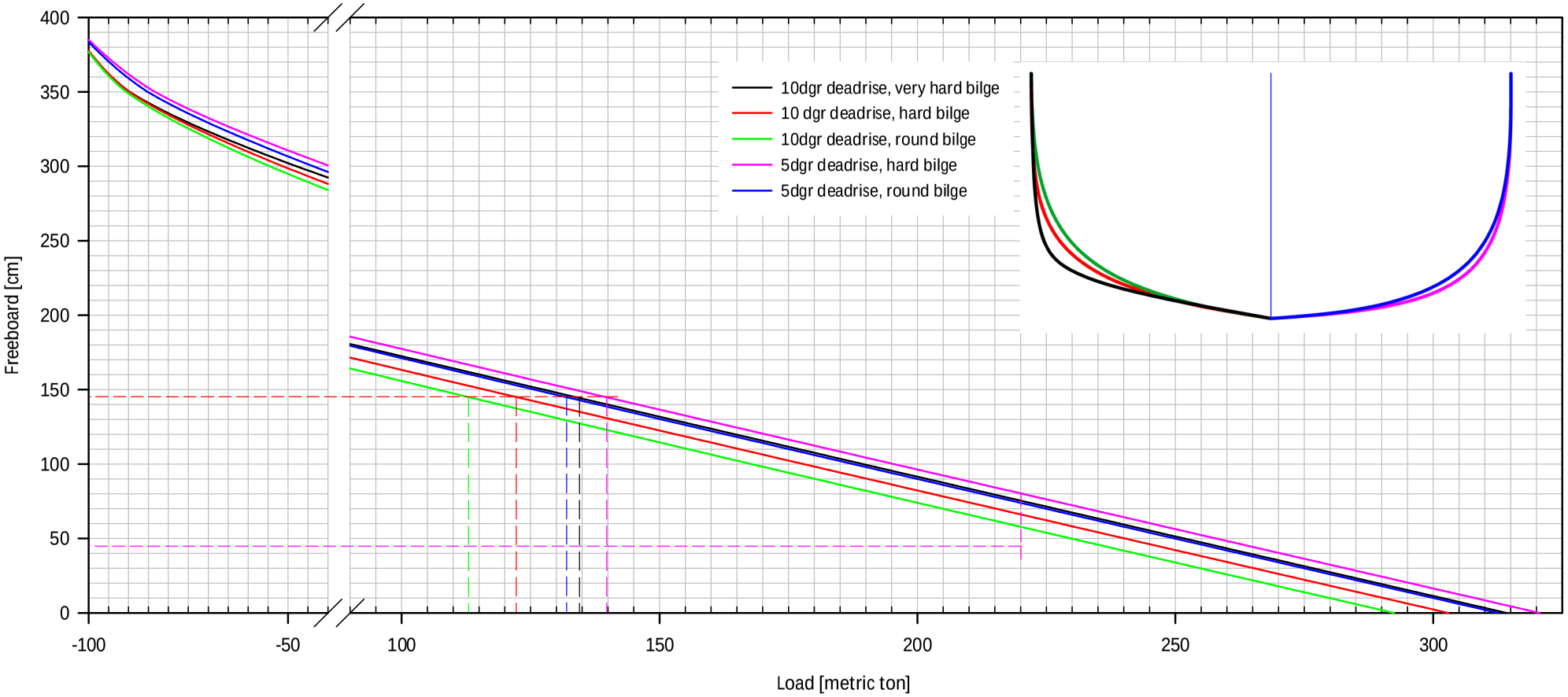


Fig.3.3-9: Estimations of load displacement and freeboard of five hull shapes (inset) with lightly raked bow/stern profiles and length:beam ratio of 3:1; hypothetical hull depth based on extrapolation of Punjulharjo wreck calculations by Manguin (2009b) (broken red line); depth of hull based on projection of remains of planking into a model with 5° deadrise and hard bilge (broken magenta line). Lightship displacement assumed as 106 metric tons. For explanations on computation methods see fn.28.

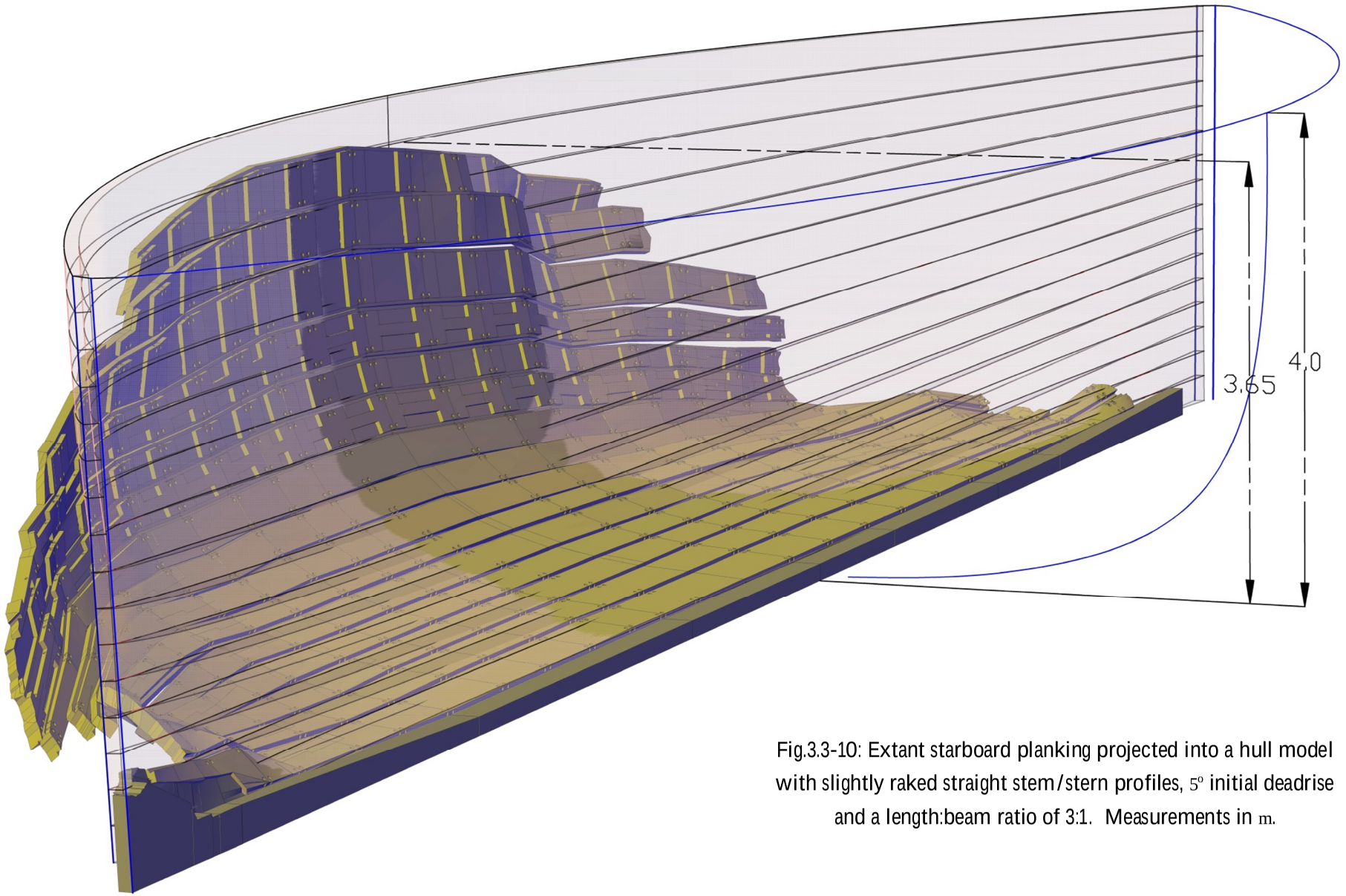


Fig.3.3-10: Extant starboard planking projected into a hull model with slightly raked straight stem/stern profiles, 5° initial deadrise and a length:beam ratio of 3:1. Measurements in m.

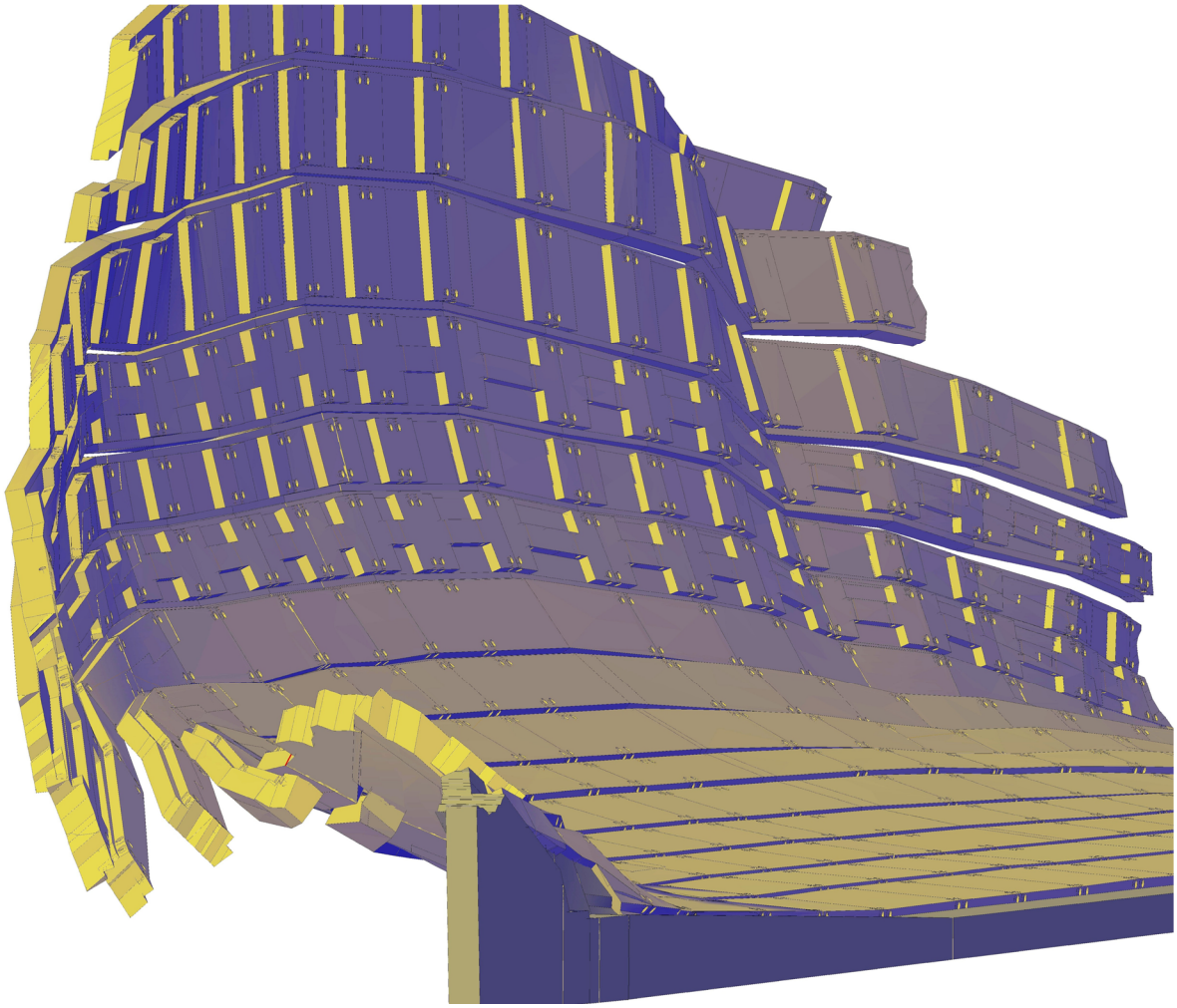


Fig.3.3-11: “Re-assembled” extant starboard planking seen from lower port bows; note deformation of lower bow planking and the comparably fair run of the plank strakes along midships.

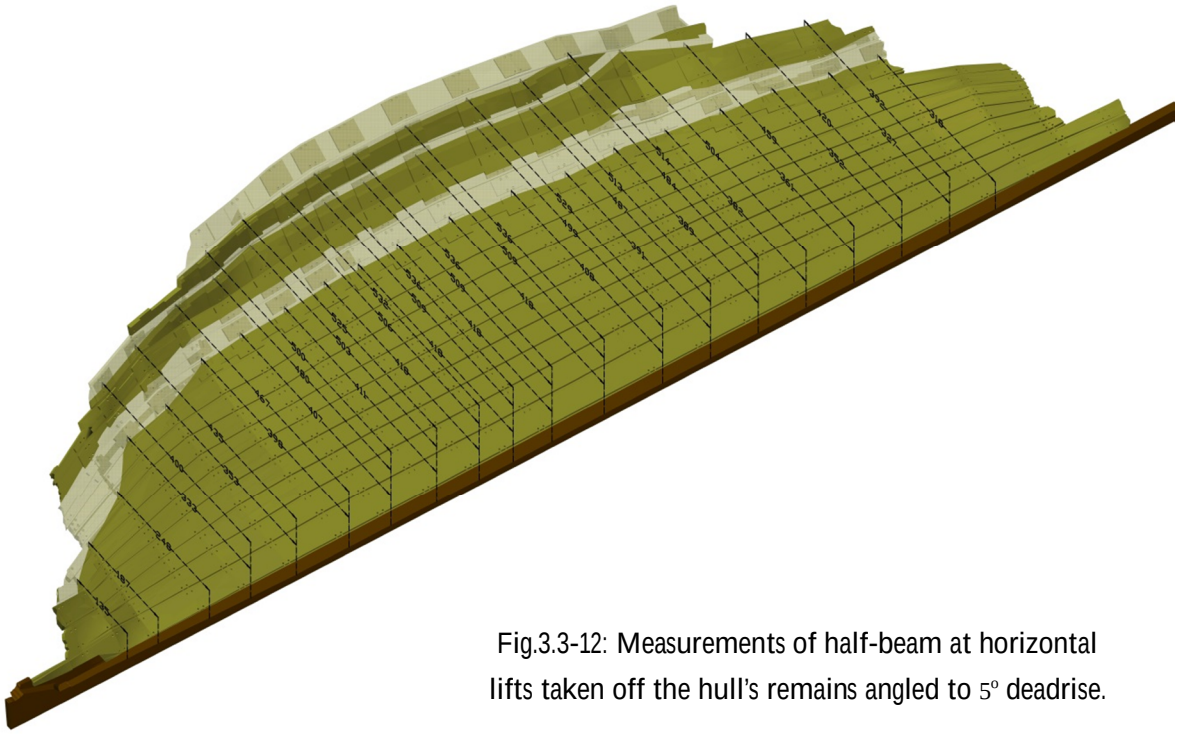


Fig.3.3-12: Measurements of half-beam at horizontal lifts taken off the hull’s remains angled to 5° deadrise.

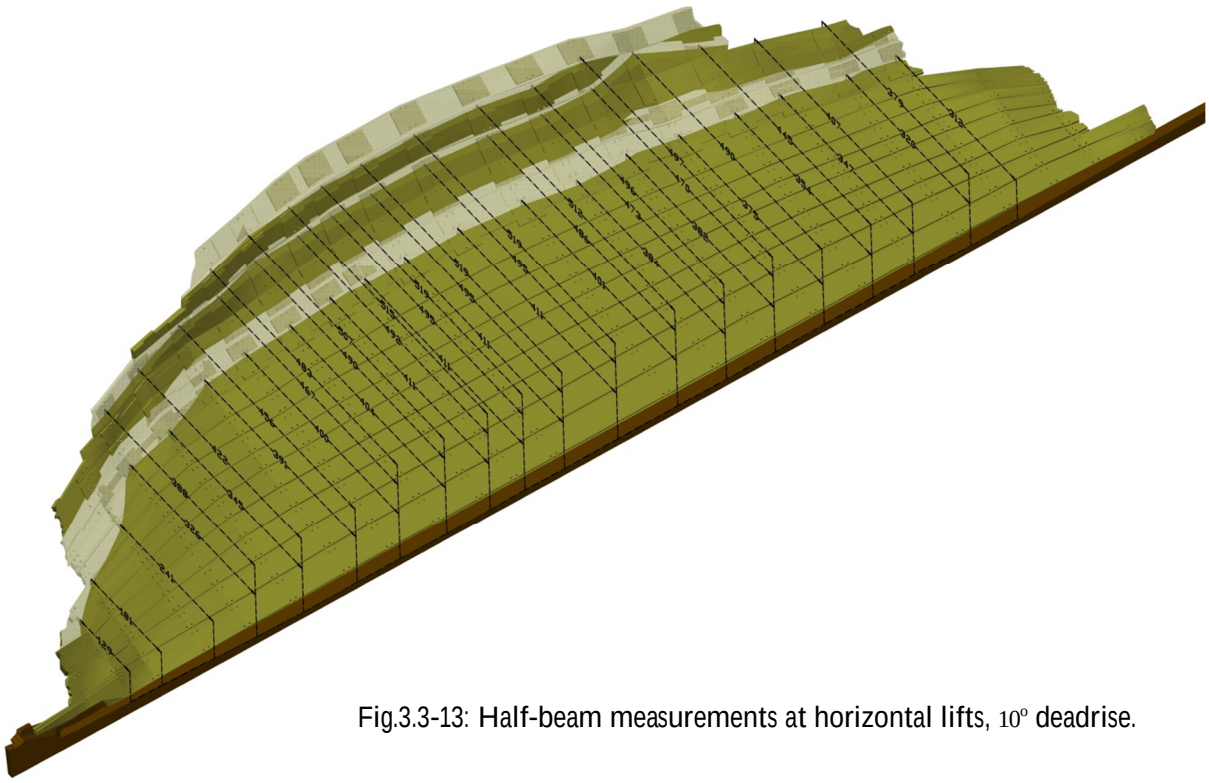


Fig.3.3-13: Half-beam measurements at horizontal lifts, 10° deadrise.

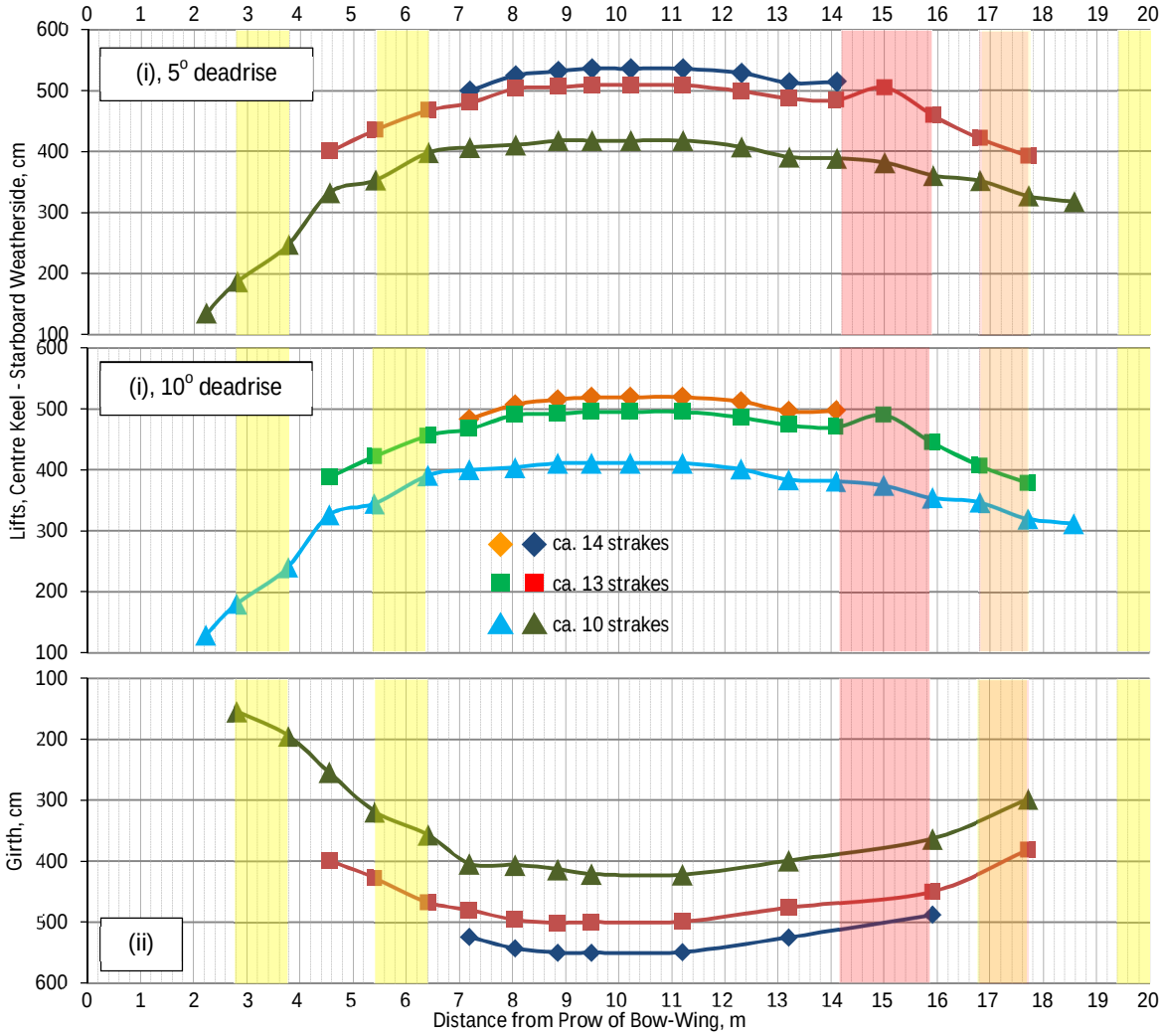


Fig.3.3-14: Diagrams of {length over keel : (i) half-bream at lifts / (ii) girth of starboard planking} functions; position of plank scarfs (transparent yellow) and concretions (transparent red).

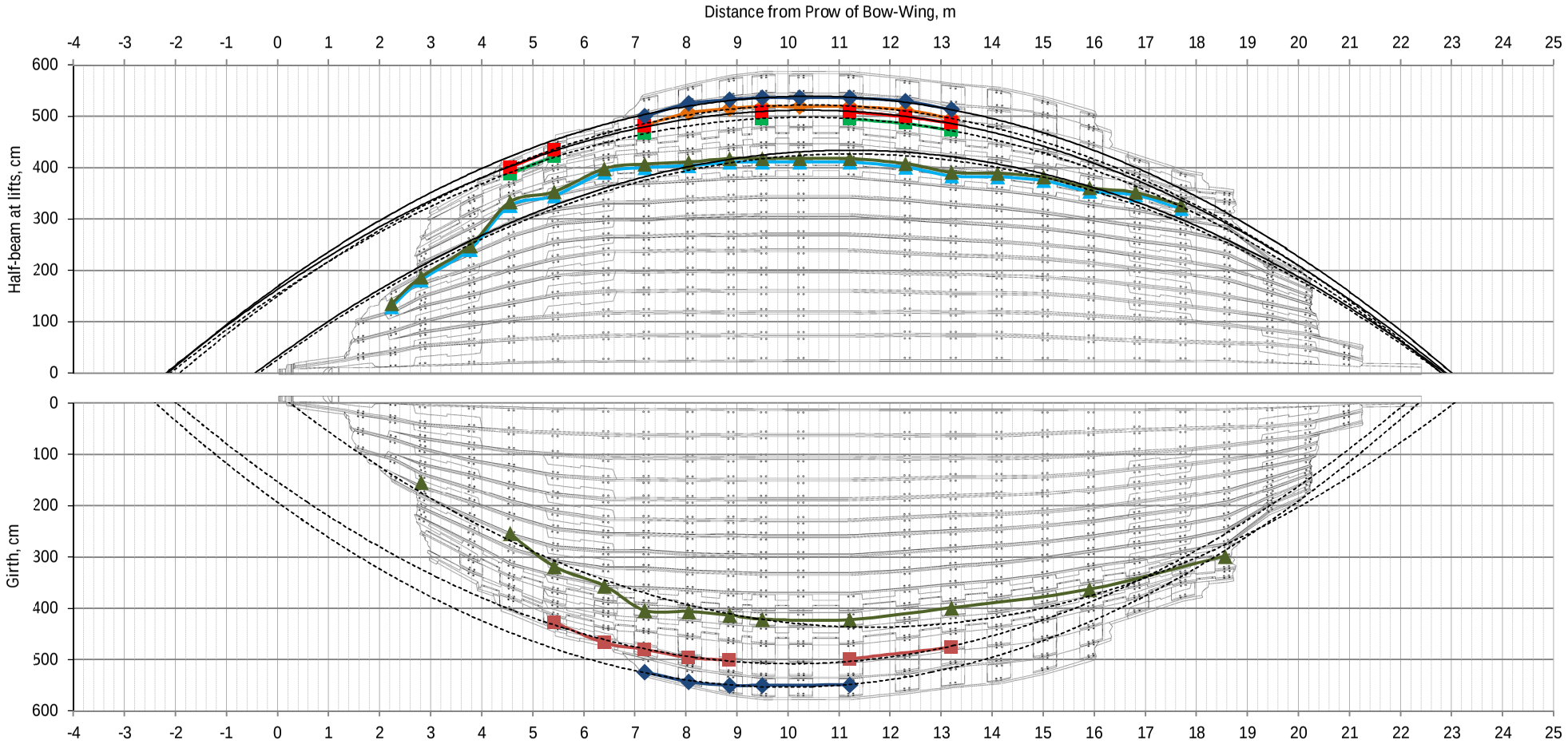


Fig.3.3-15: Second order polynomial functions predicting the run of curves for half-beam at lifts and girth (black, broken and continuous lines) based on selected data and projected over outline drawings of the hull's remains; for legend see Fig.3.3-14.

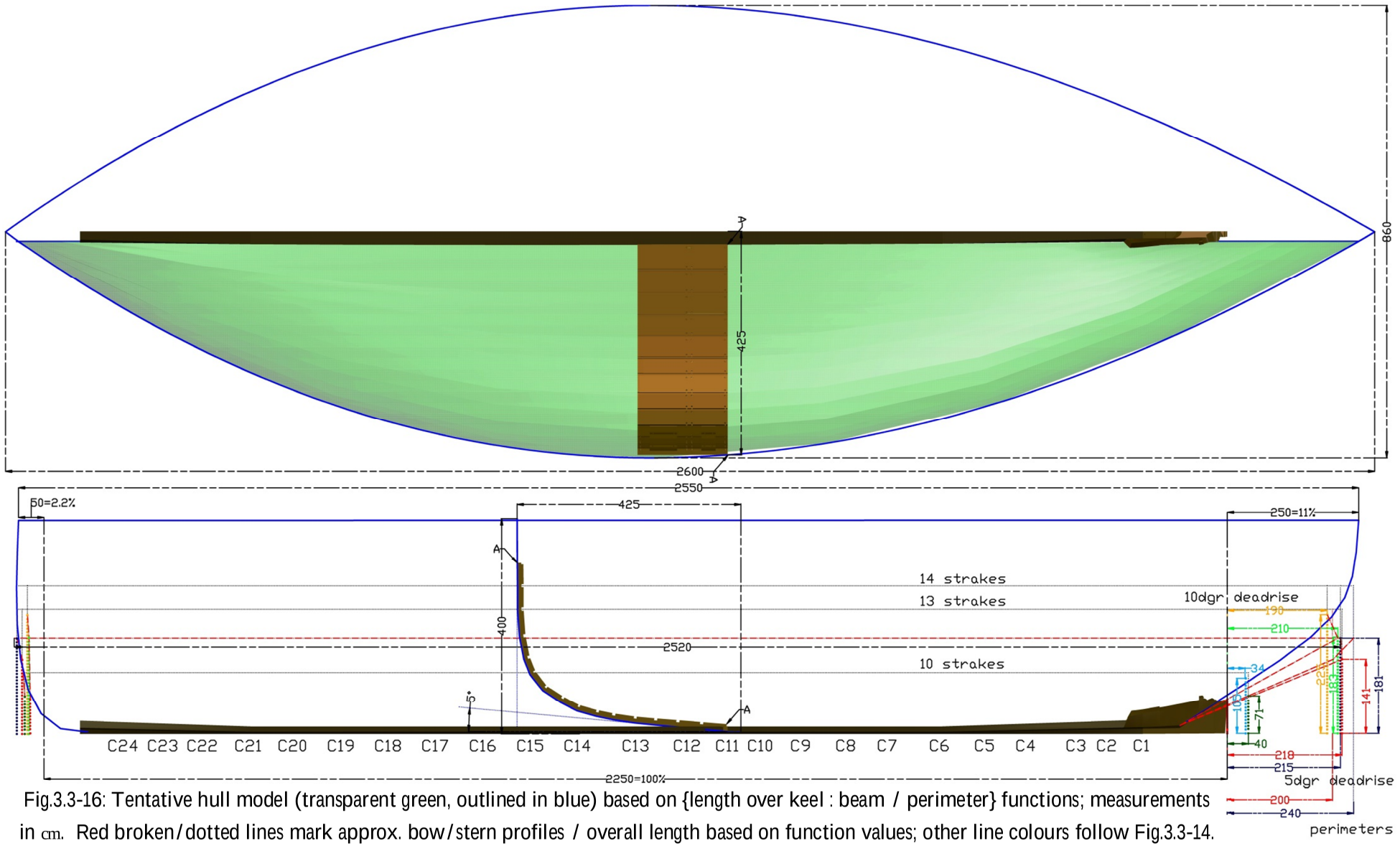


Fig.3.3-16: Tentative hull model (transparent green, outlined in blue) based on {length over keel : beam / perimeter} functions; measurements in cm. Red broken/dotted lines mark approx. bow/stern profiles / overall length based on function values; other line colours follow Fig.3.3-14.

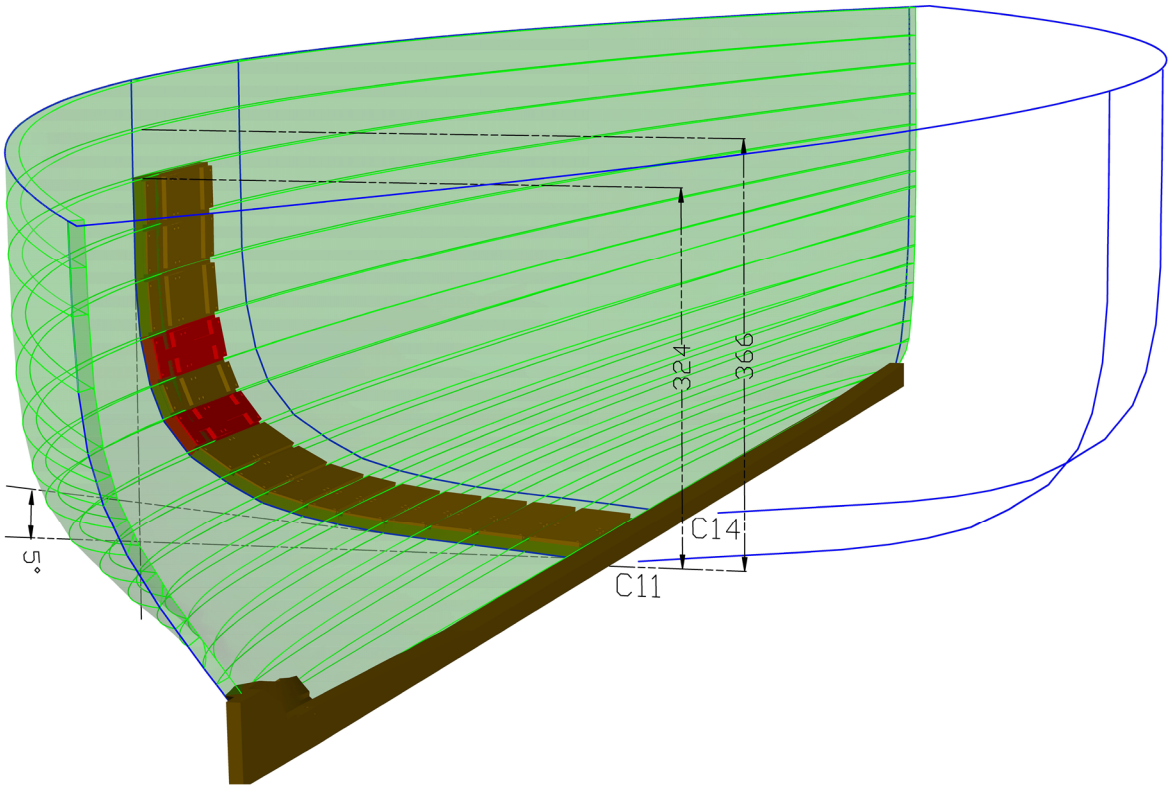


Fig.3.3-17: Extant planking projected into model in Fig.3.3-16; strakes X and XII shaded in red.

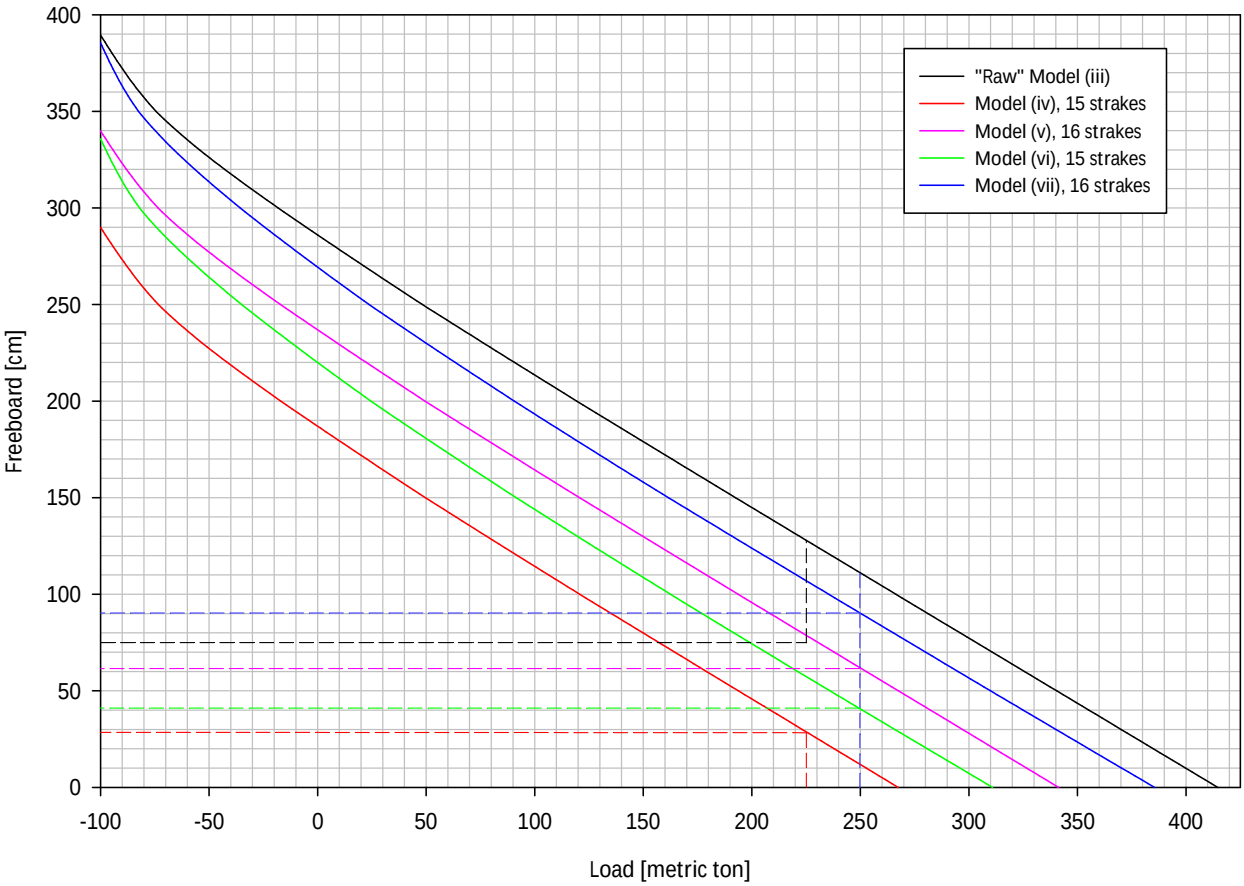


Fig.3.3-18: Estimated load displacement and freeboard of proposed models (iii)-(vii); lightship displacement assumed as 106 t.

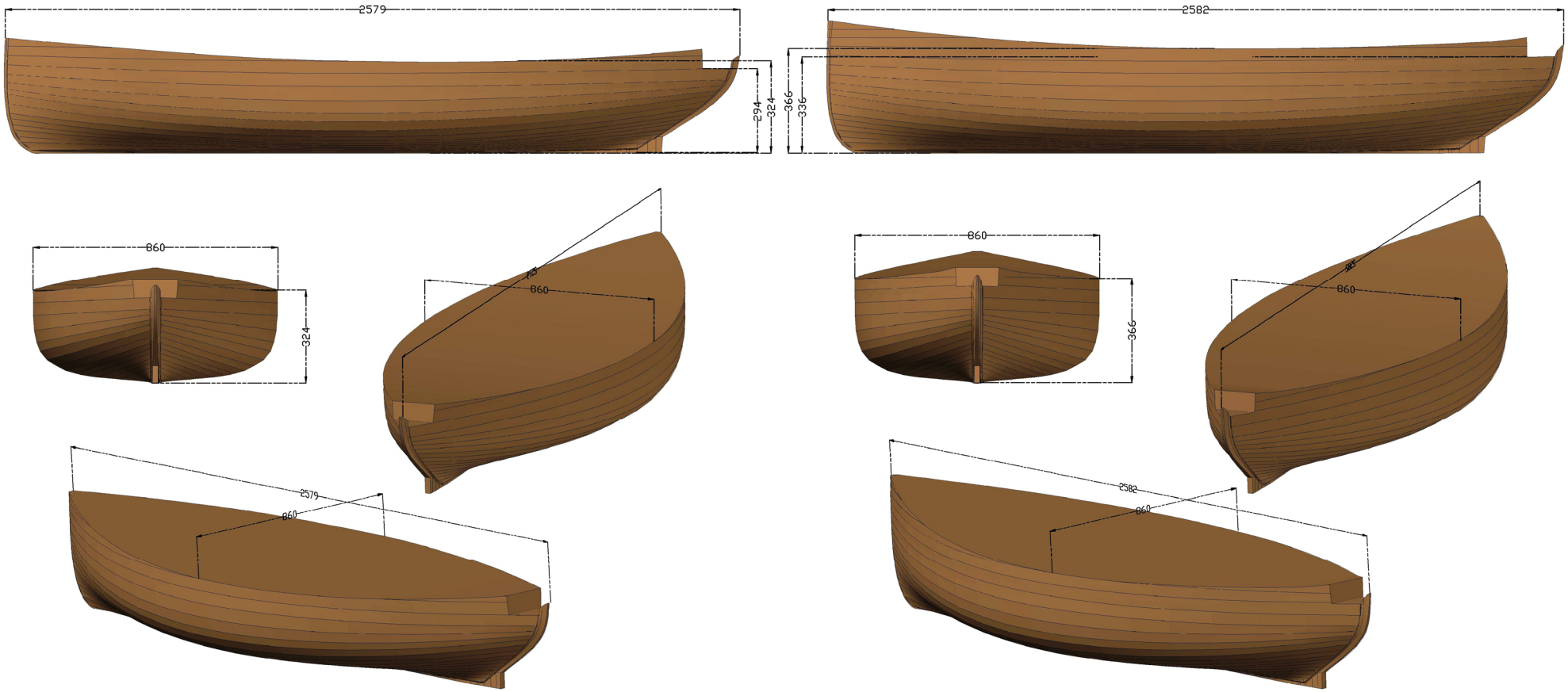


Fig.3.3-19: Tentative hull models (iv), left, and (v), right.

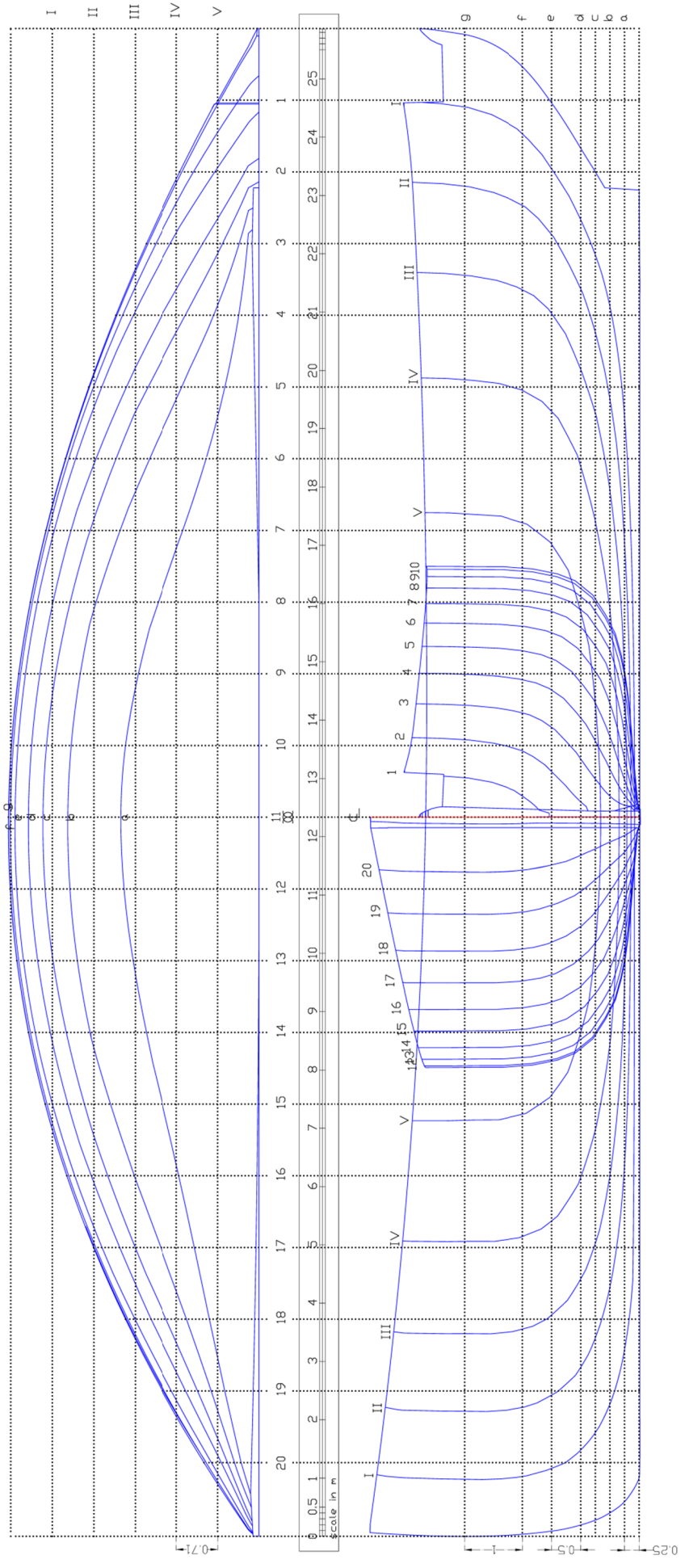


Fig.3.3-20: Line drawing of model (v).

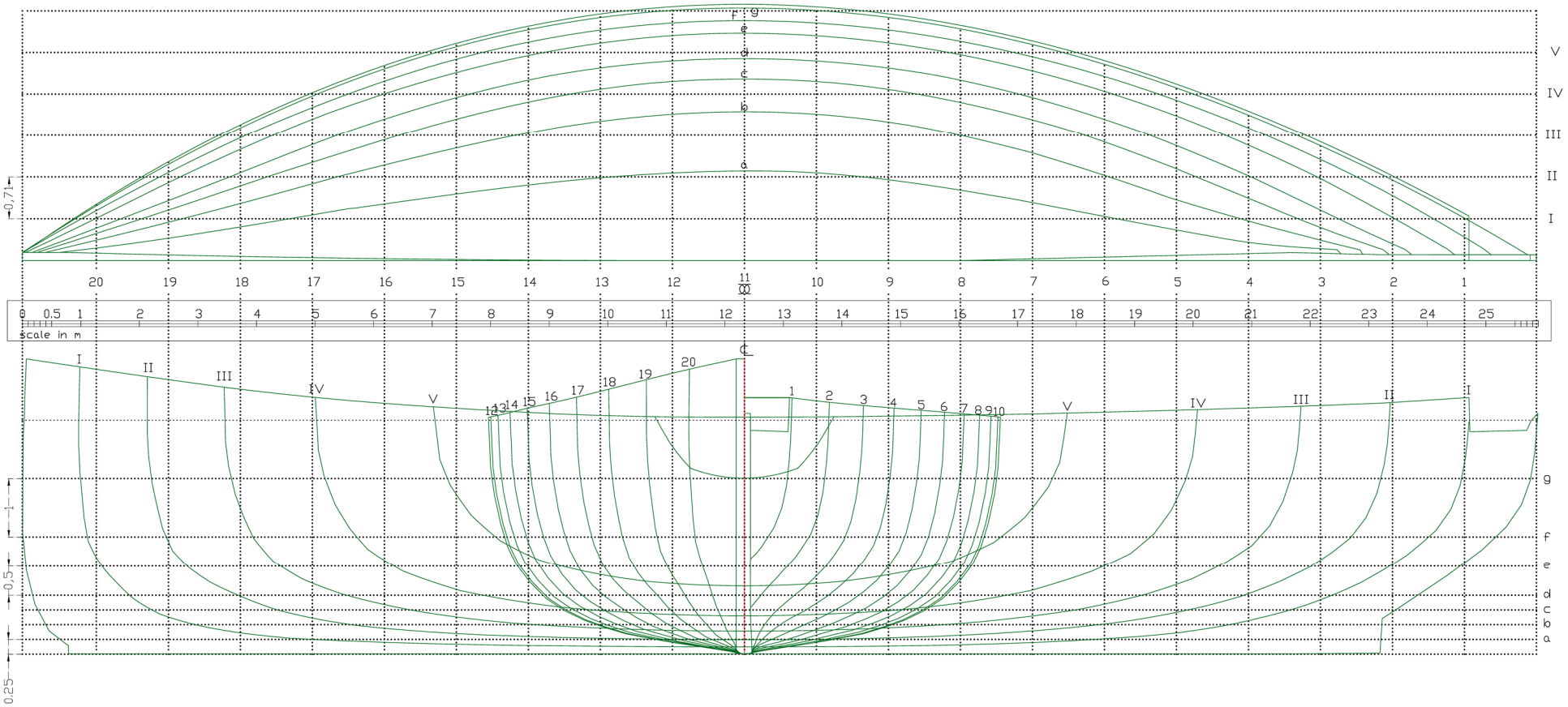


Fig.3.3-21: Line drawing of model (vii).

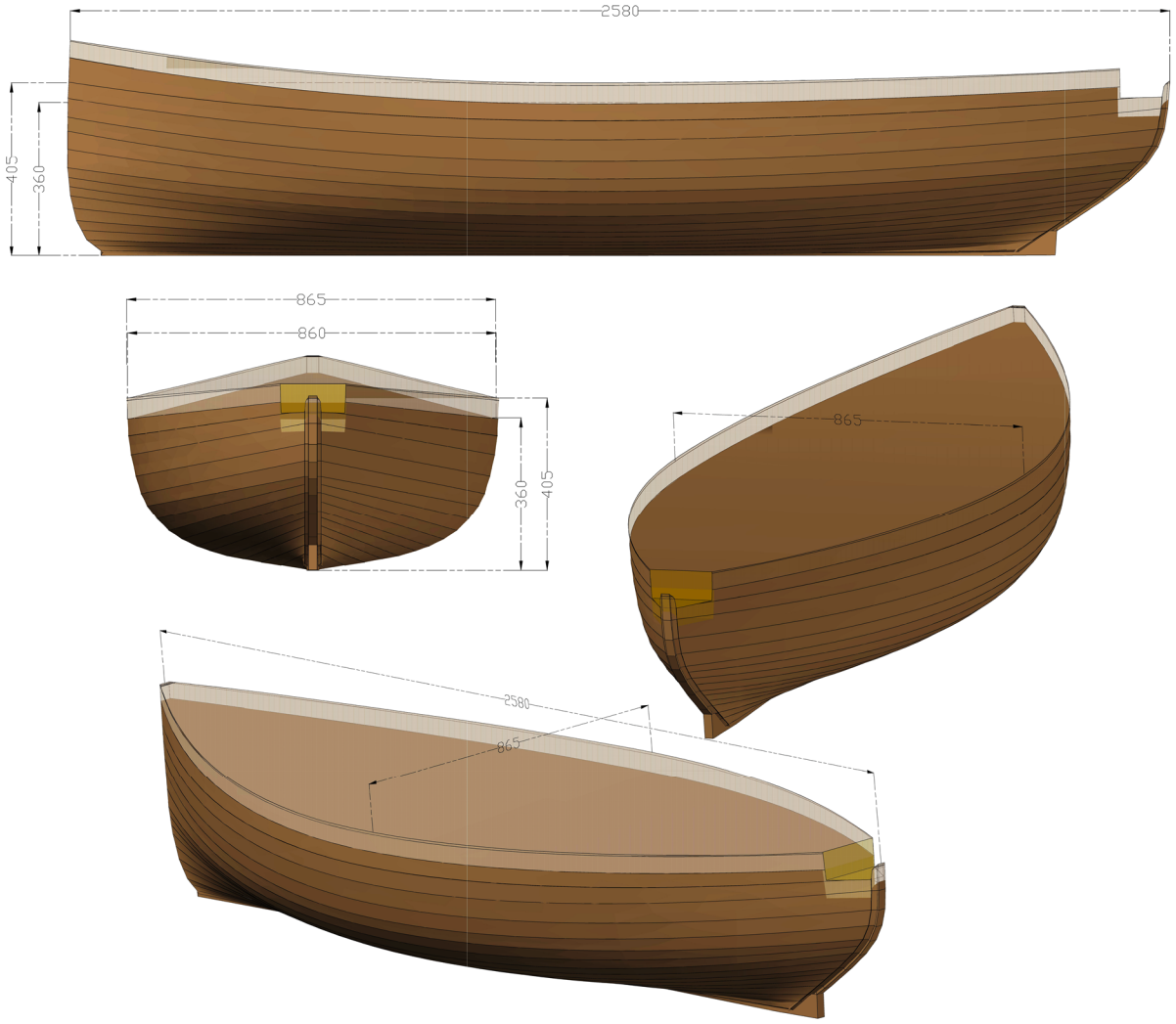


Fig.3.3-22: Models (vi) and (vii, transparent).

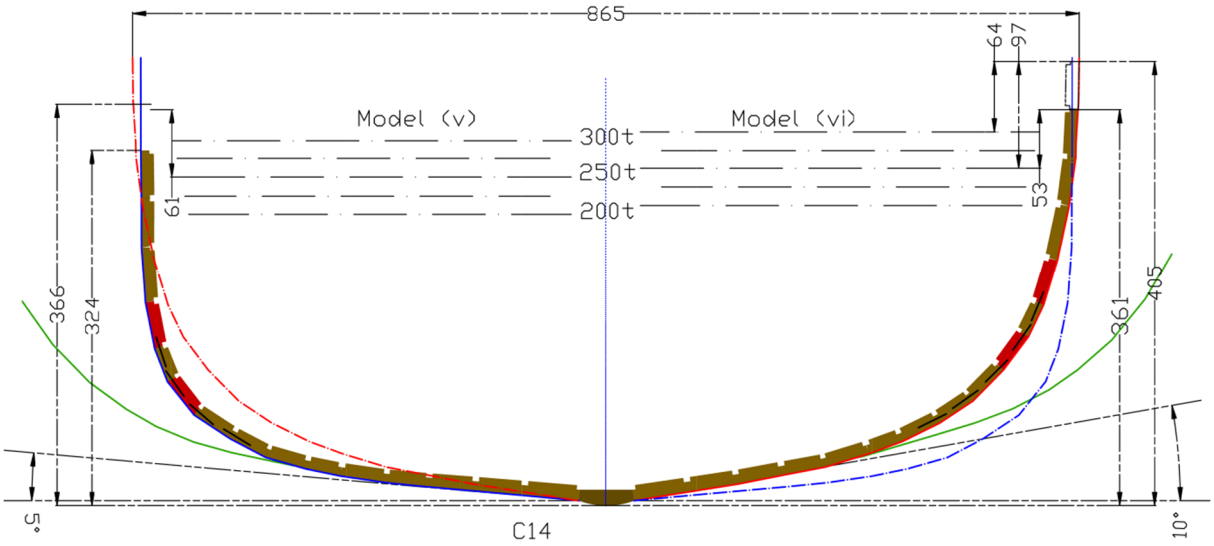


Fig.3.3-23: Midsections of Models (v; blue line) and (vi; red line); section at frame station C14 as taken of the site model and angled to deadrise of respect. model (green); approximate carrying capacity (broken black line). Strakes X and XII in red; approximate positions of dowels along the turn of the bilges (black). All measurements in cm.

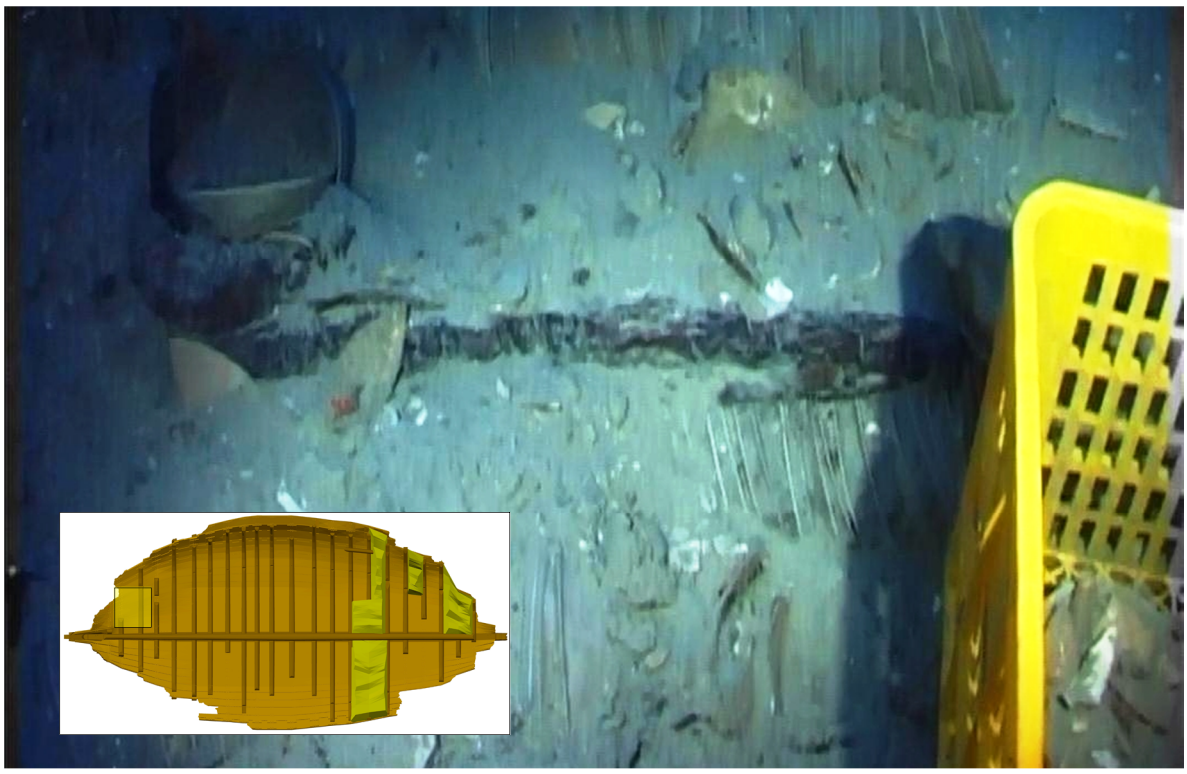


Fig.3.3-24: Presumably, a crossbeam embedded in ceramic cargo; video capture, courtesy Yves Gladu, 2004. Inset shows approximate placement.

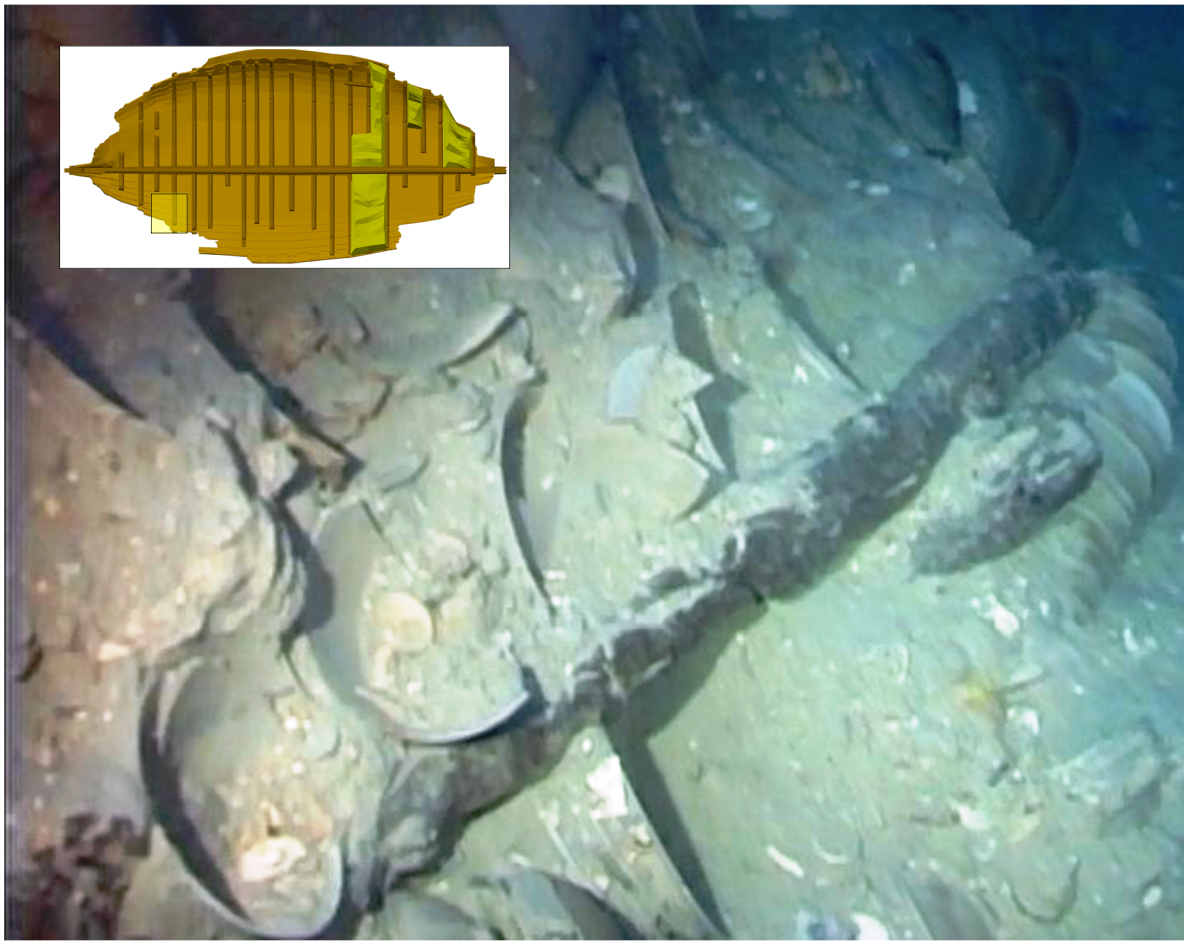


Fig.3.3-25: Presumably, a fragmented crossbeam (below) and a longitudinal (above) embedded in ceramic cargo; video capture, Yves Gladu, 2004. Approximate placement in inset.

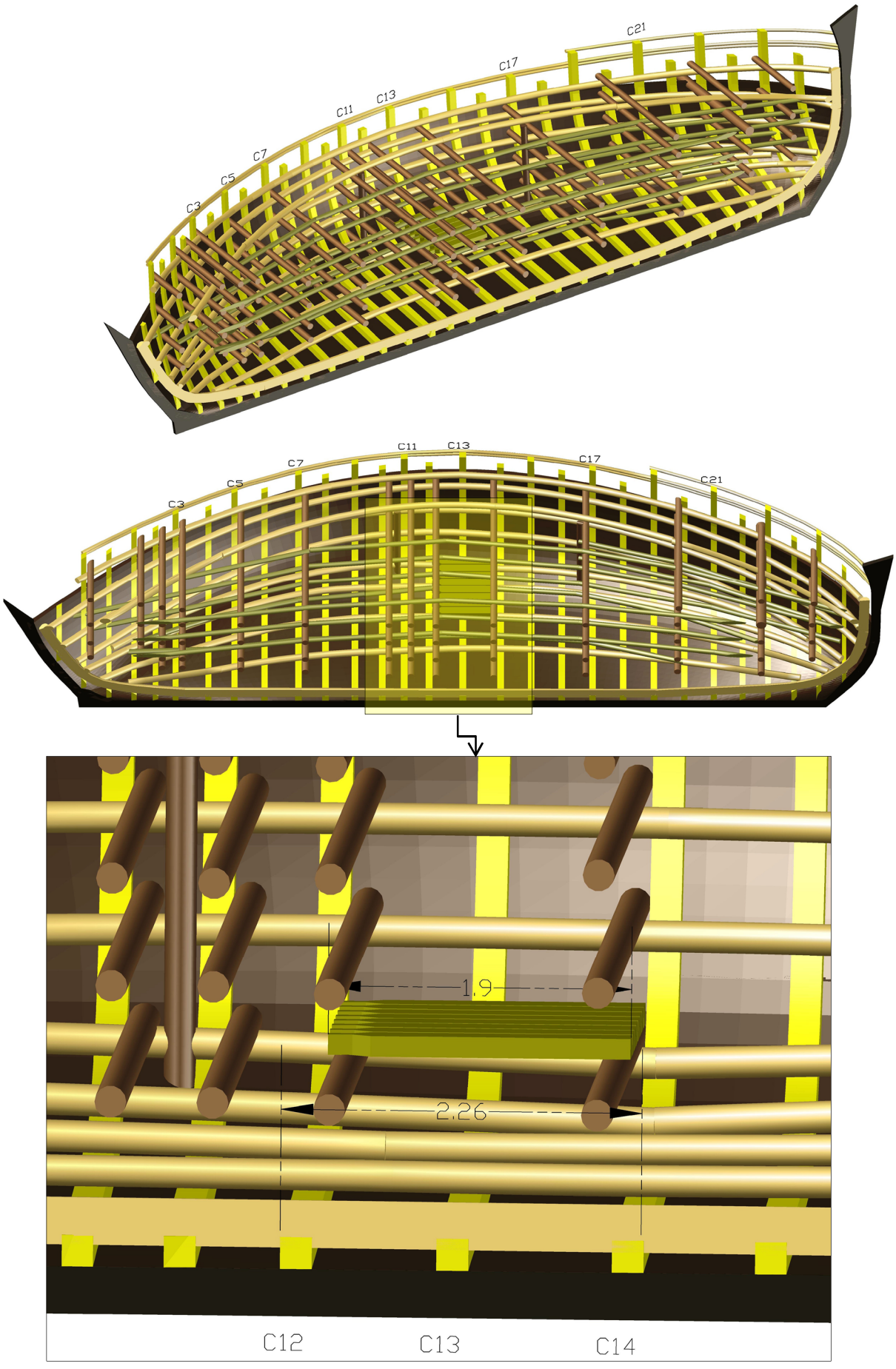


Fig.3.3-26: Assumed placement of stringers, cross beams, longitudinally laid timbers and ‘tween deck in preliminary reconstruction (2008); measurements in m.

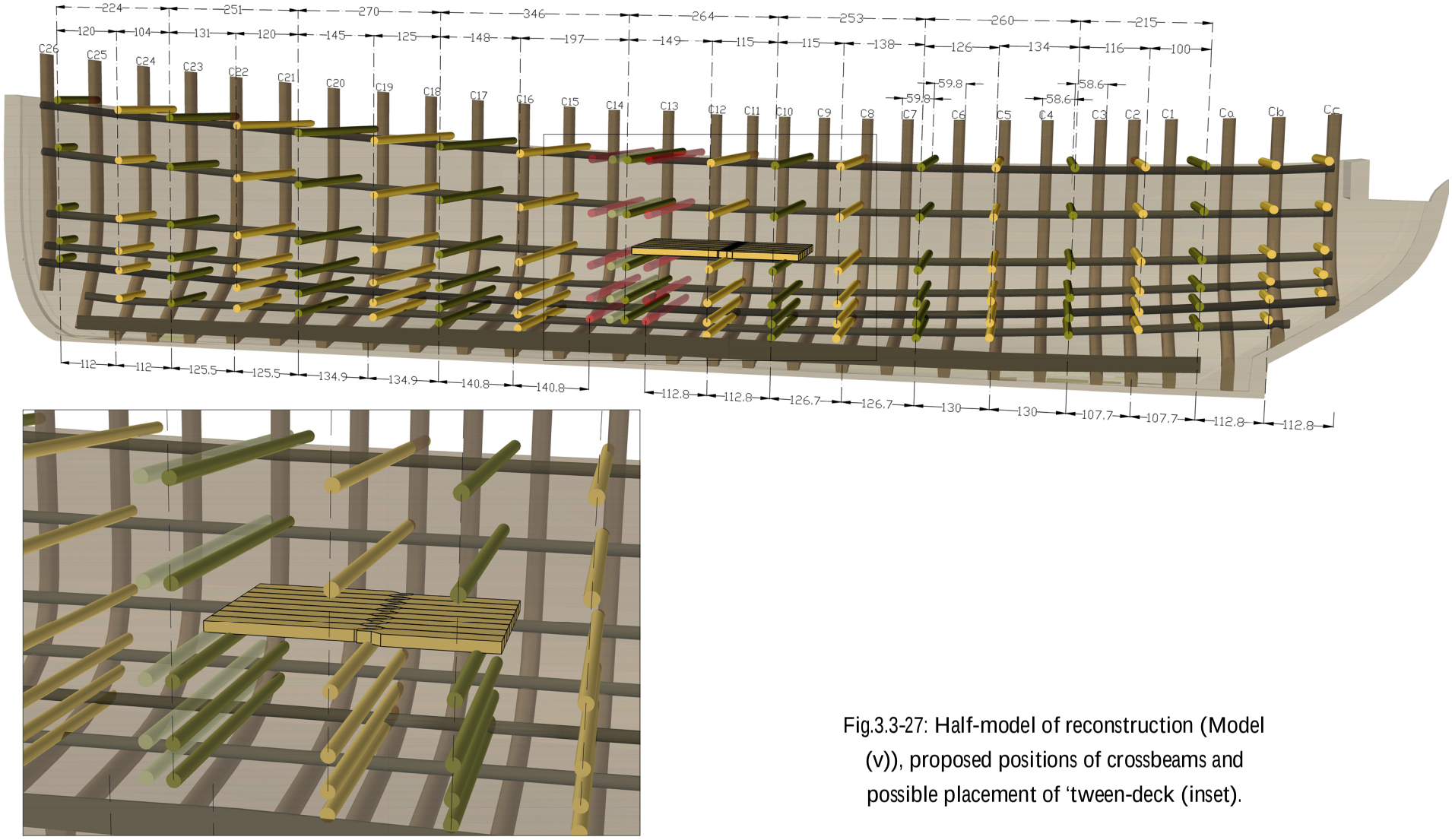


Fig.3.3-27: Half-model of reconstruction (Model (v)), proposed positions of crossbeams and possible placement of 'tween-deck (inset).

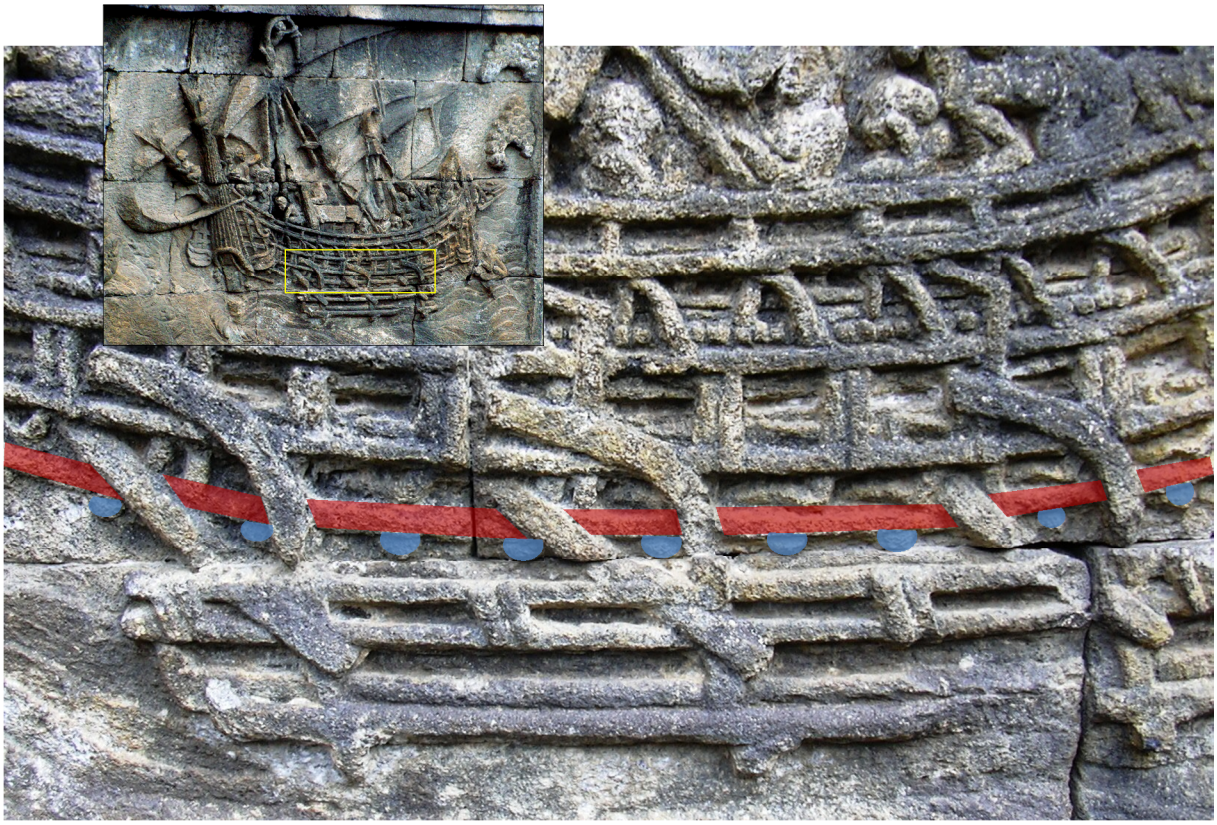


Fig. 3.3-28: Protruding crossbeams (transparent blue) and “sheerbeam” (transparent red) on panel 1.86, Borobudur.

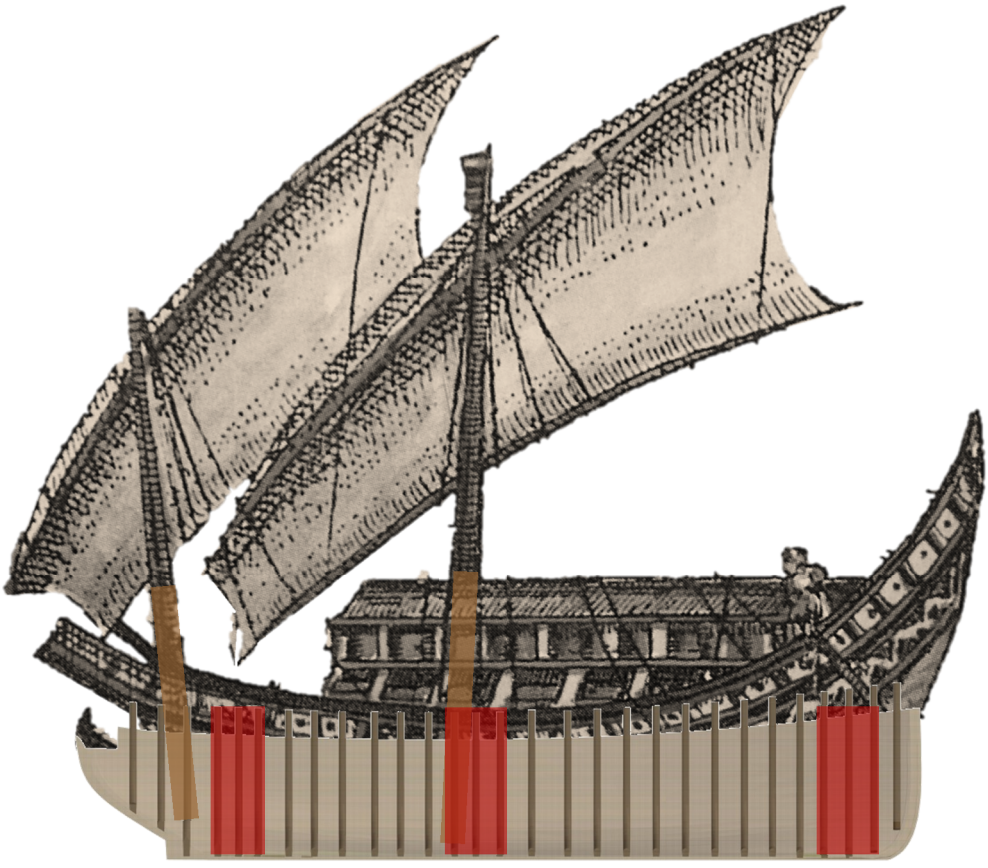


Fig.3.3-29: Lodewijkz’s ‘Javanese *jong*’ overlaid onto hull model (v); frame stations C1-3, C10-12 and C23-25 marked in transparent red.

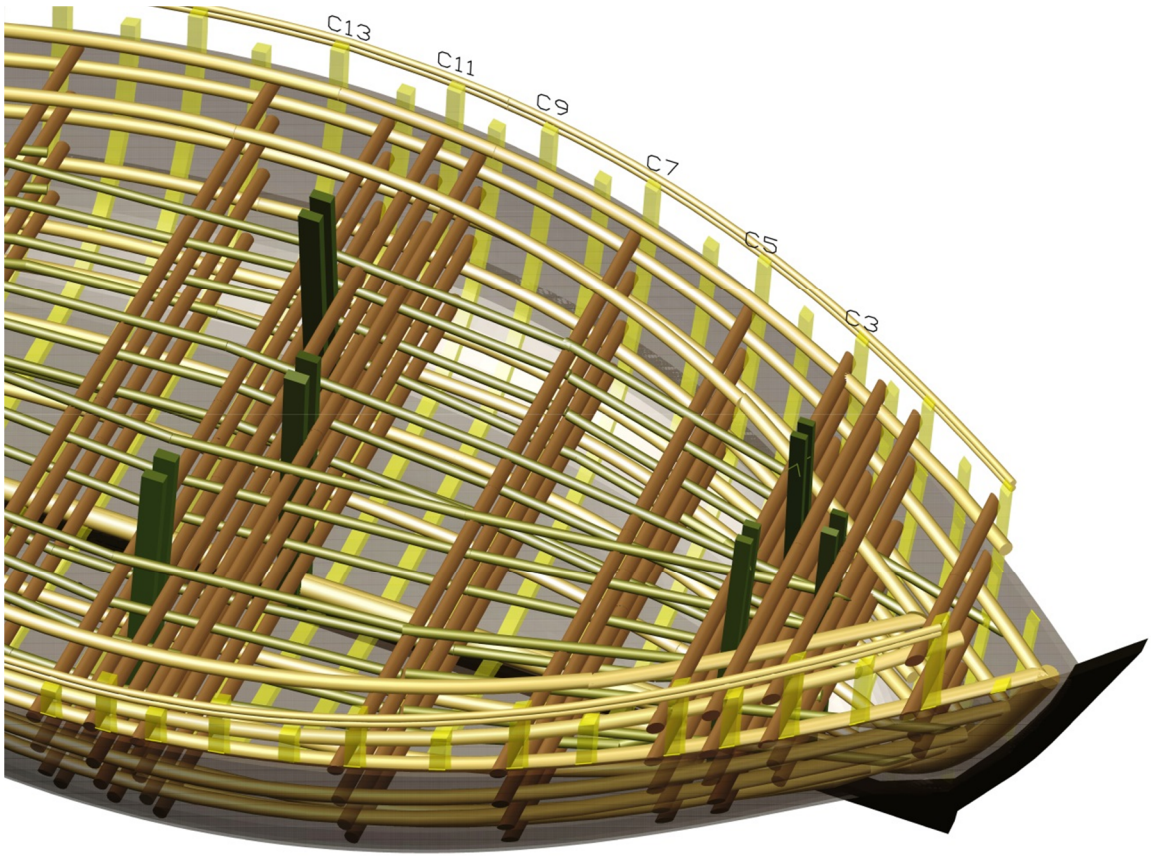


Fig. 3.3-30: Mast tabernacles (dark green) in preliminary reconstruction.

Fig. 3.3-31: Rudderfittings on Borobudur 1.53; main rudder beam marked transparent blue; “upper bracket”, red; proposed additional fastenings, yellow.

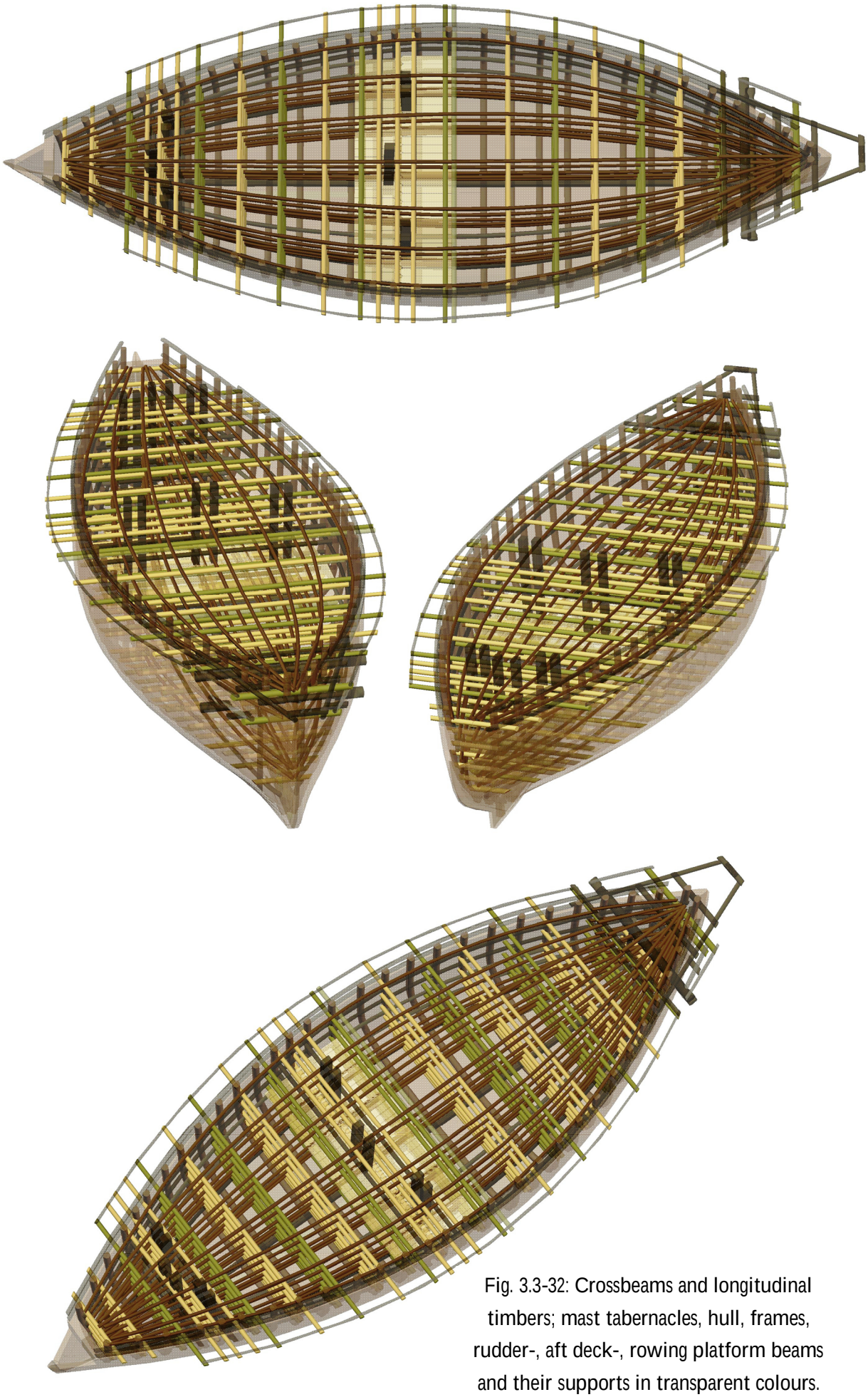


Fig. 3.3-32: Crossbeams and longitudinal timbers; mast tabernacles, hull, frames, rudder-, aft deck-, rowing platform beams and their supports in transparent colours.

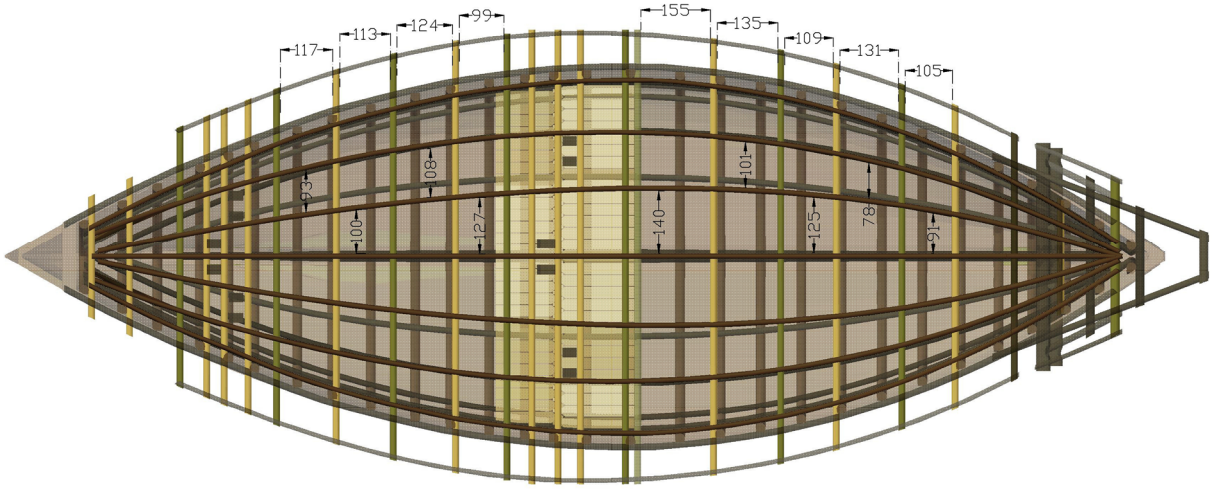


Fig.3.3-33: Measurements of compartments bound by thwarts and lengthwise beams (cm).

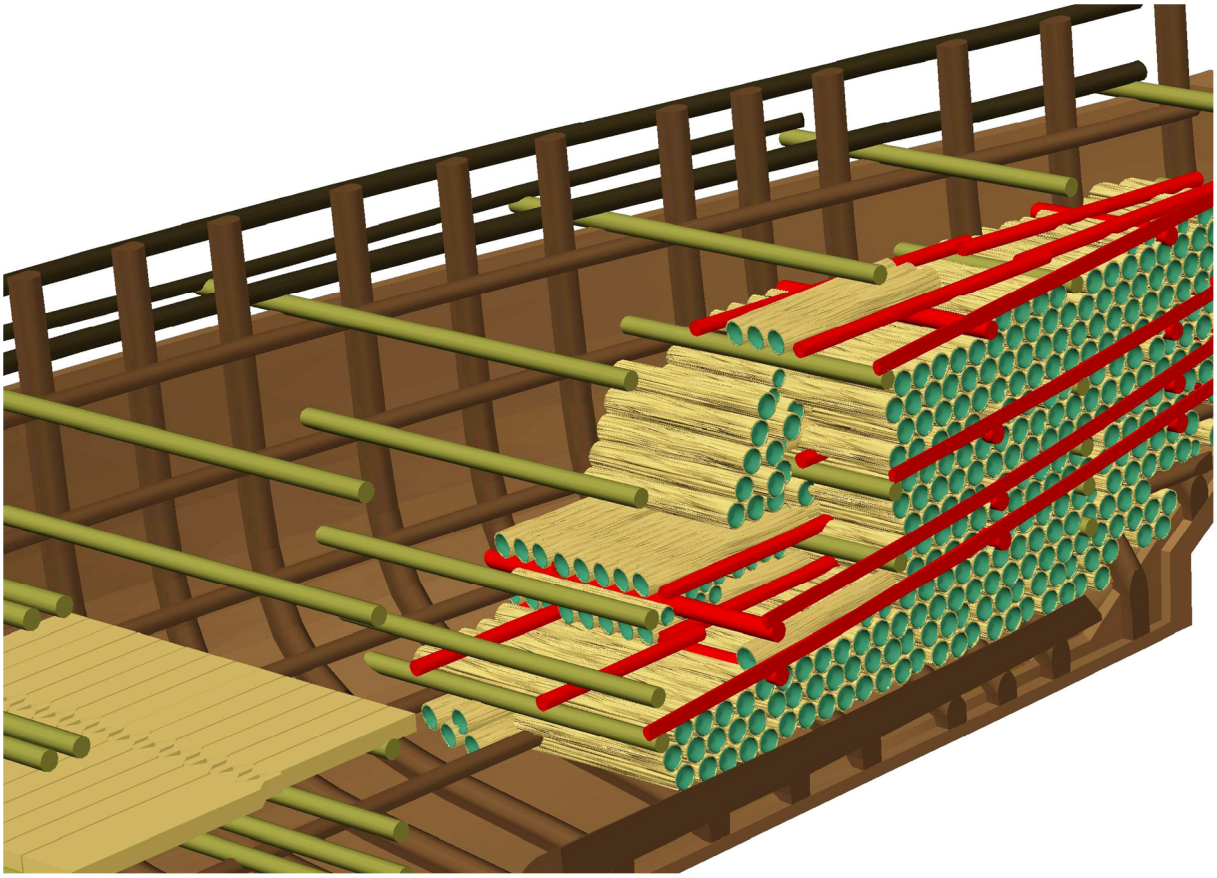


Fig.3.3-34: Outline schema of possible arrangement of cross- and lengthwise beams laid while breaking down the cargo hold. Proposedly fixed thwarts, green; timbers inserted with cargo, red. Possible additional strengthenings (mast tabernacles, additional deck beams, etc.) are omitted.

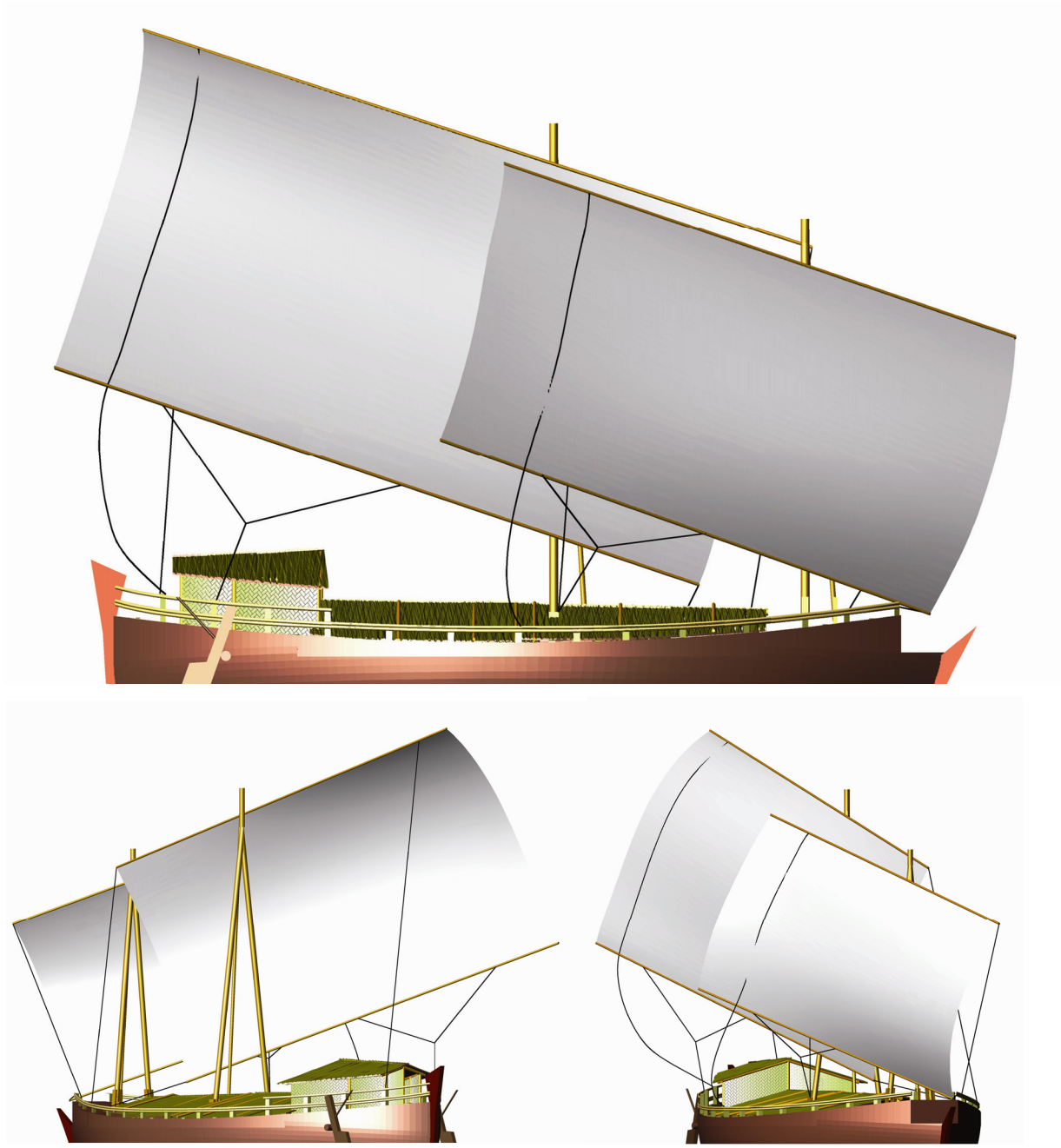


Fig. 3.3-35: Masts and sails of preliminary reconstruction (after Liebner 2008: II, 43-4, Fig.4-21).

	LOD	Main Height	Main Yard	Mizzen Height	Mizzen Yard
Bulan Purnama, Hawkins 1982: 6	1	0.7911	1.1664	n/d	n/d
Cahaya Galesong, ibid.: front cover	1	0.8118	1.0954	0.5592	0.6382
Turu Cinnaya, ibid: 42	1	0.8857	1.2507	n/d	n/d
Hati Marege, 1987	1	0.5622	0.8648	0.4344	0.6378
Borobudur, 1.53	1	0.7393	0.8058	0.4866	0.6422
Borobudur, 1.86	1	0.7471	0.9096	0.4488	0.5825
Javanese *jong*, Burningham 2000: 118	1	0.7152	1.1089	0.5466*	0.6743
Nan-Han/Cirebon, prel. reconstruction	1	0.6275	0.8367	0.5133*	0.6743

Fig. 3.3-36: Approximate ratios of LOD : Rigging Elements of a number of *tanjaq*-rigged vessels and reconstructions. [*Shorter mast placed fore.]

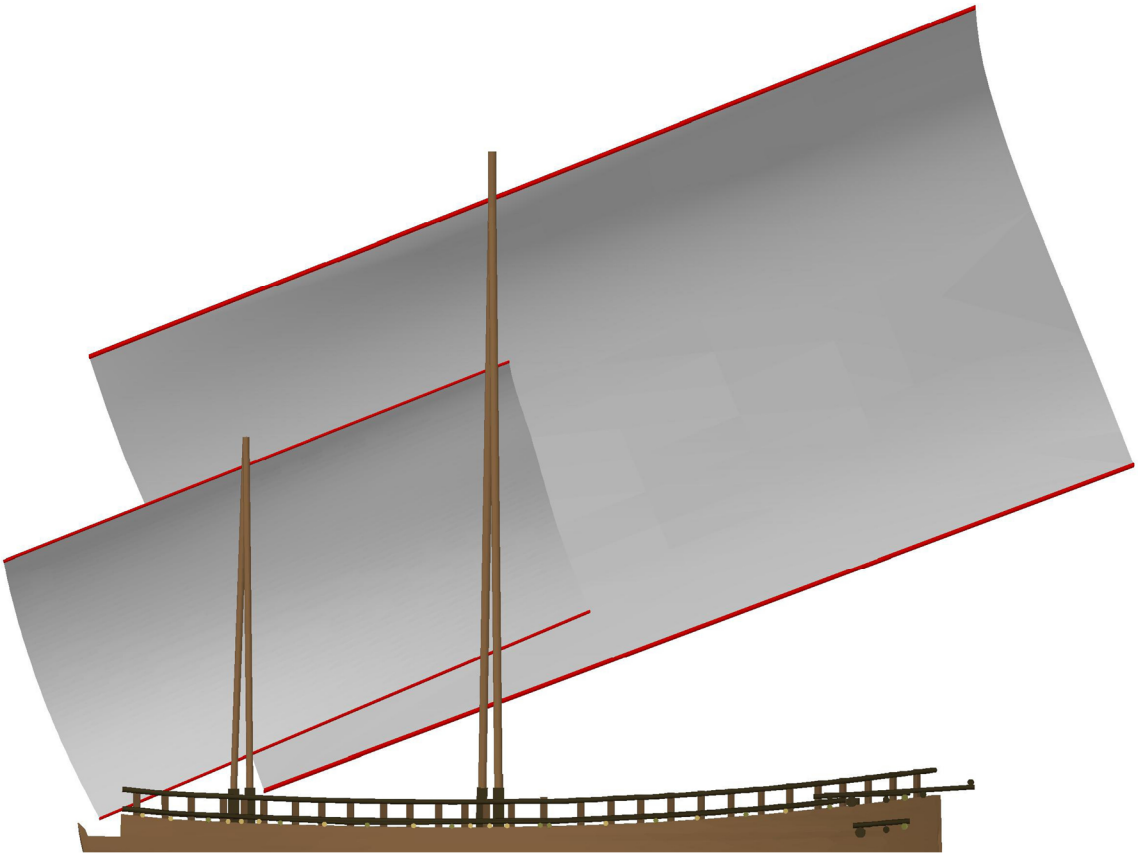


Fig. 3.3-37: Sailplan based on approximate ratios of a modern *patorani*.

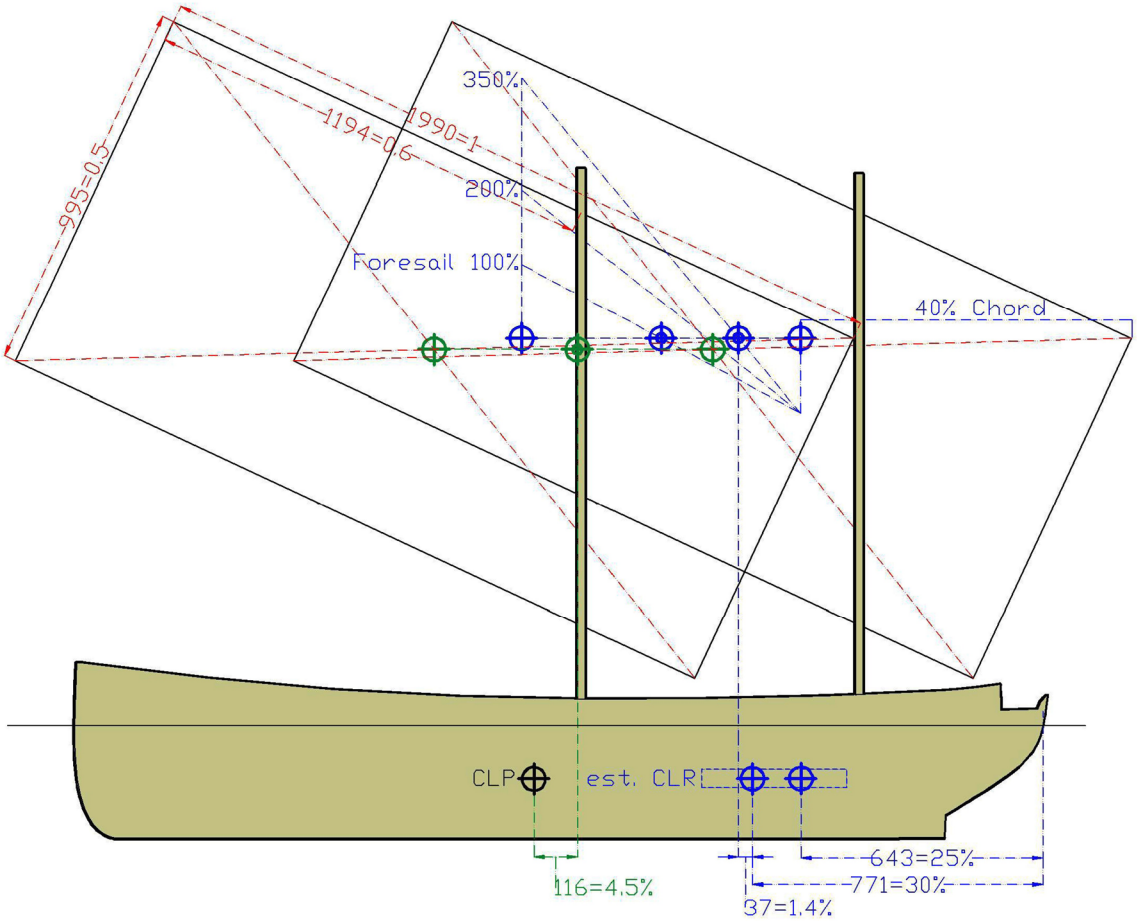


Fig. 3.3-38: Estimates of centres of effort and lateral resistance for a sailplan with sails of the same area. "Traditional" method, green; estimates based on Palmer 2009, blue.

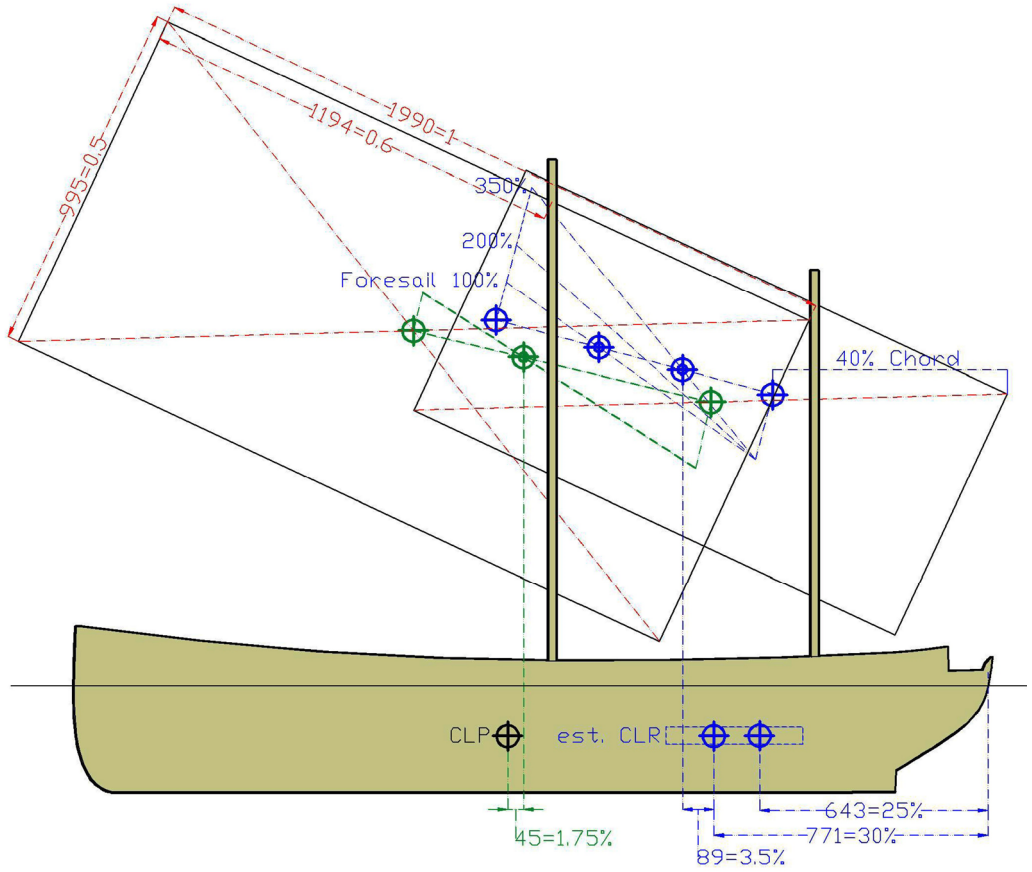


Fig. 3.3-39: Estimates of centres of effort and lateral resistance for a sailplan with a fore sail of an area of ¾ of the main.

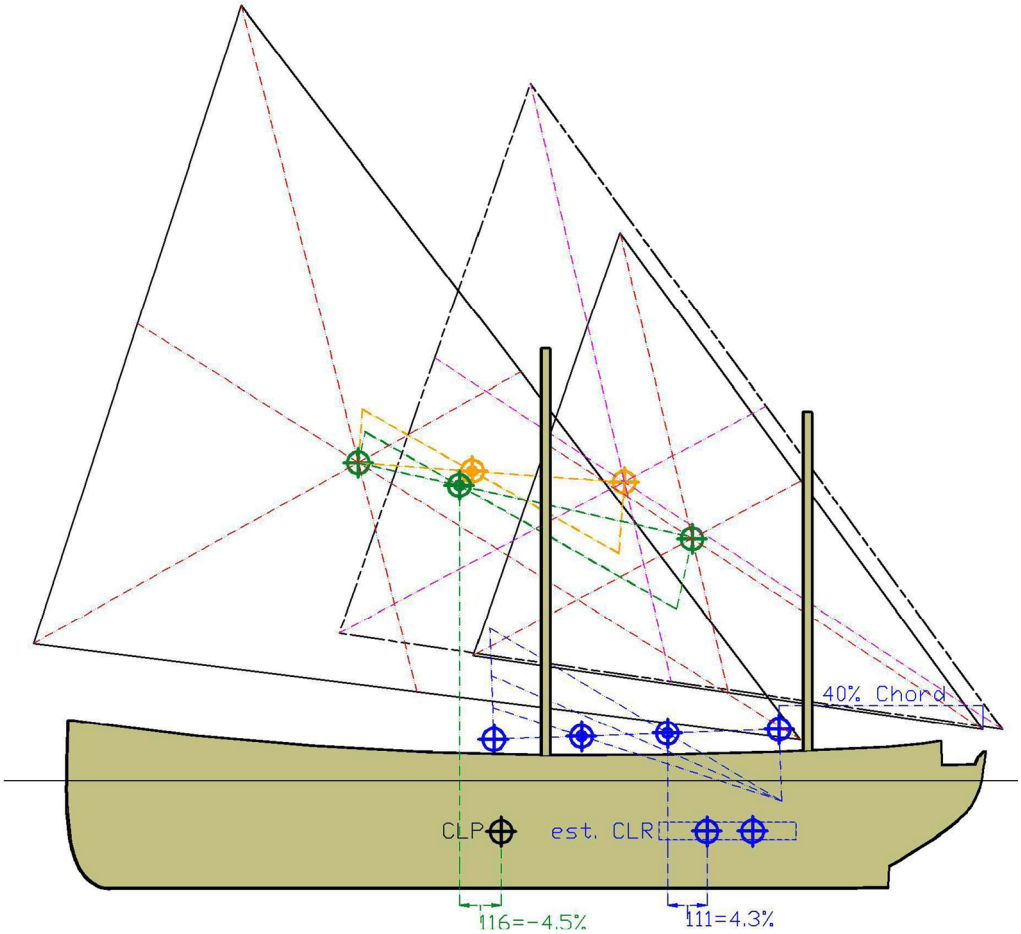


Fig. 3.3-40: Centres of effort and lateral resistance for an oceanic lateen based on Blake 1929.

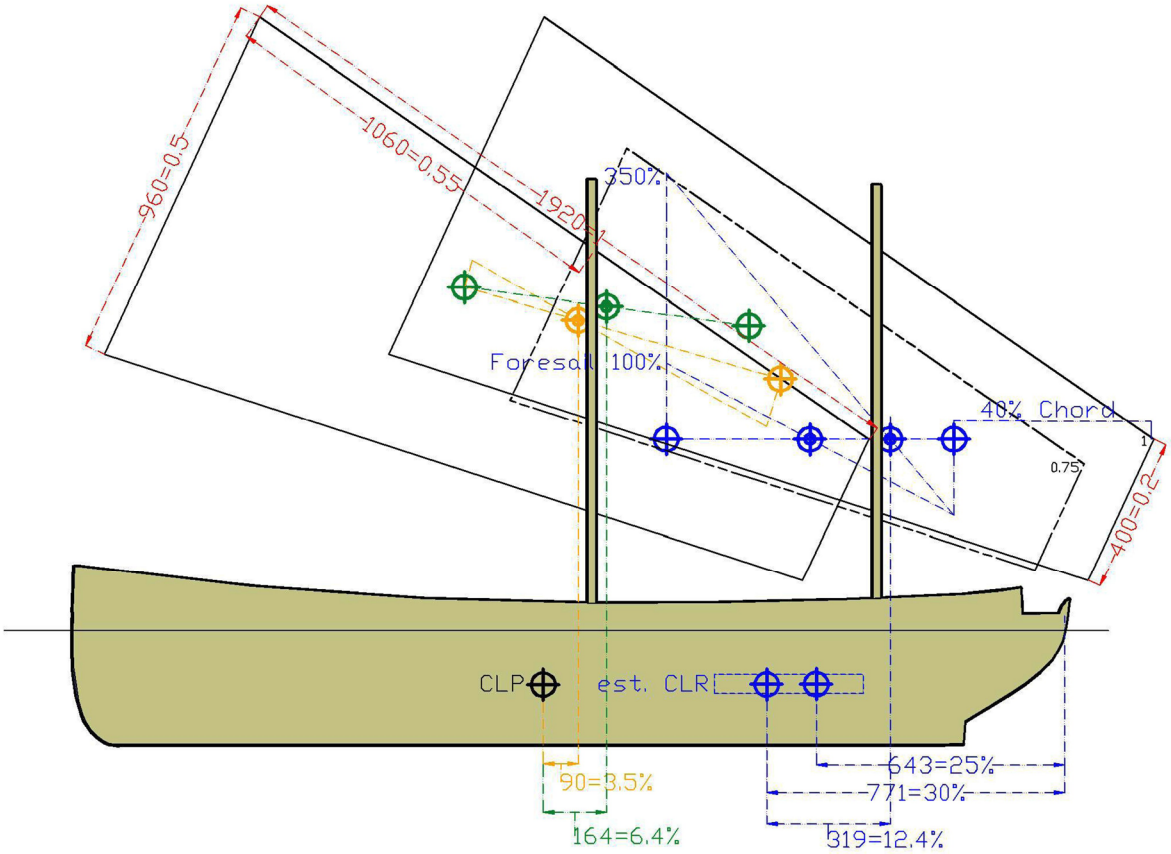


Fig. 3.3-41: 'Javanese *tanjaq*', based on the ratios in Burningham 2000: 118.

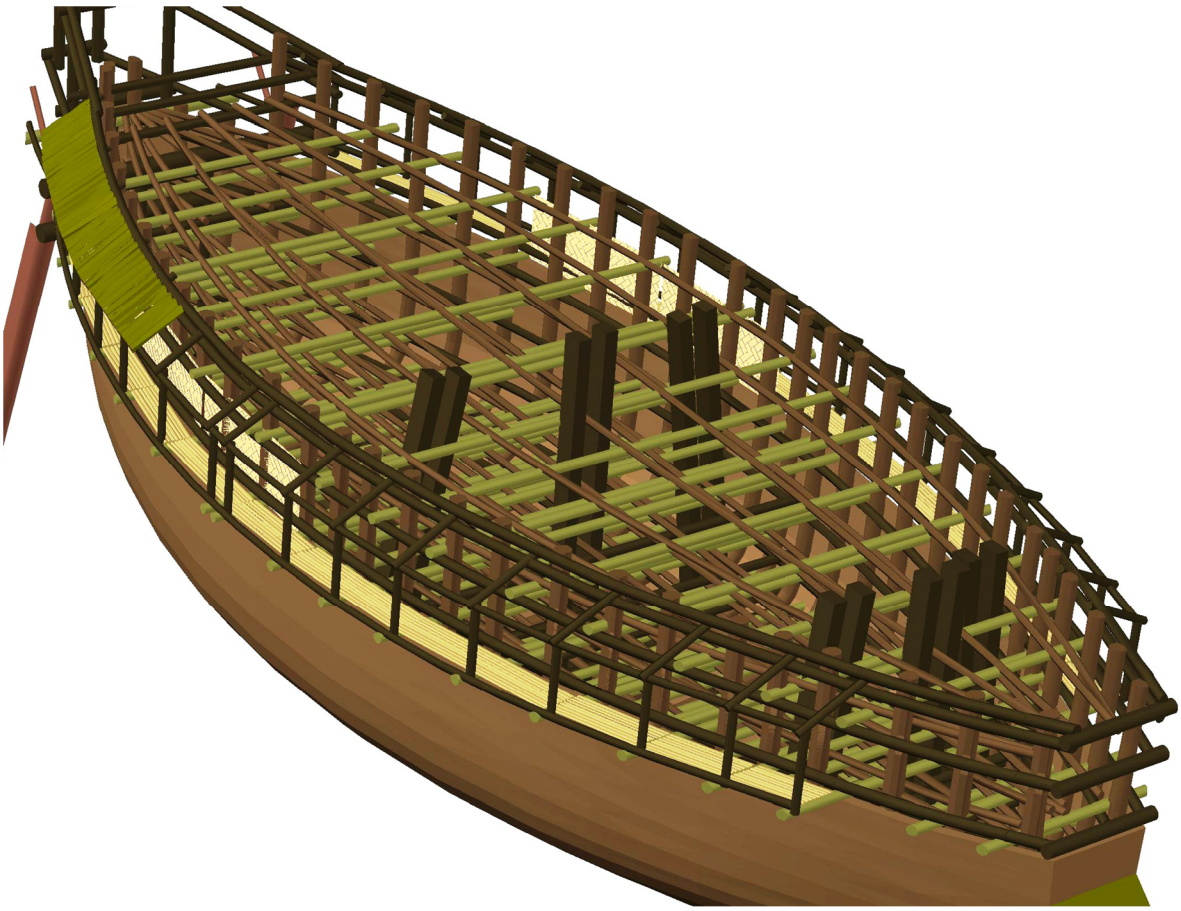


Fig. 3.3-42: Possible arrangement of rowing galleries.

Fig. 3.3-43: Portholes in side planking on the vessel on panel 2.41 (transparent yellow); stanchions and stringers carrying the top deck (transparent blue).

Fig. 3.3-44: Panel 1.86, top-deck grating (partly marked in transparent yellow).

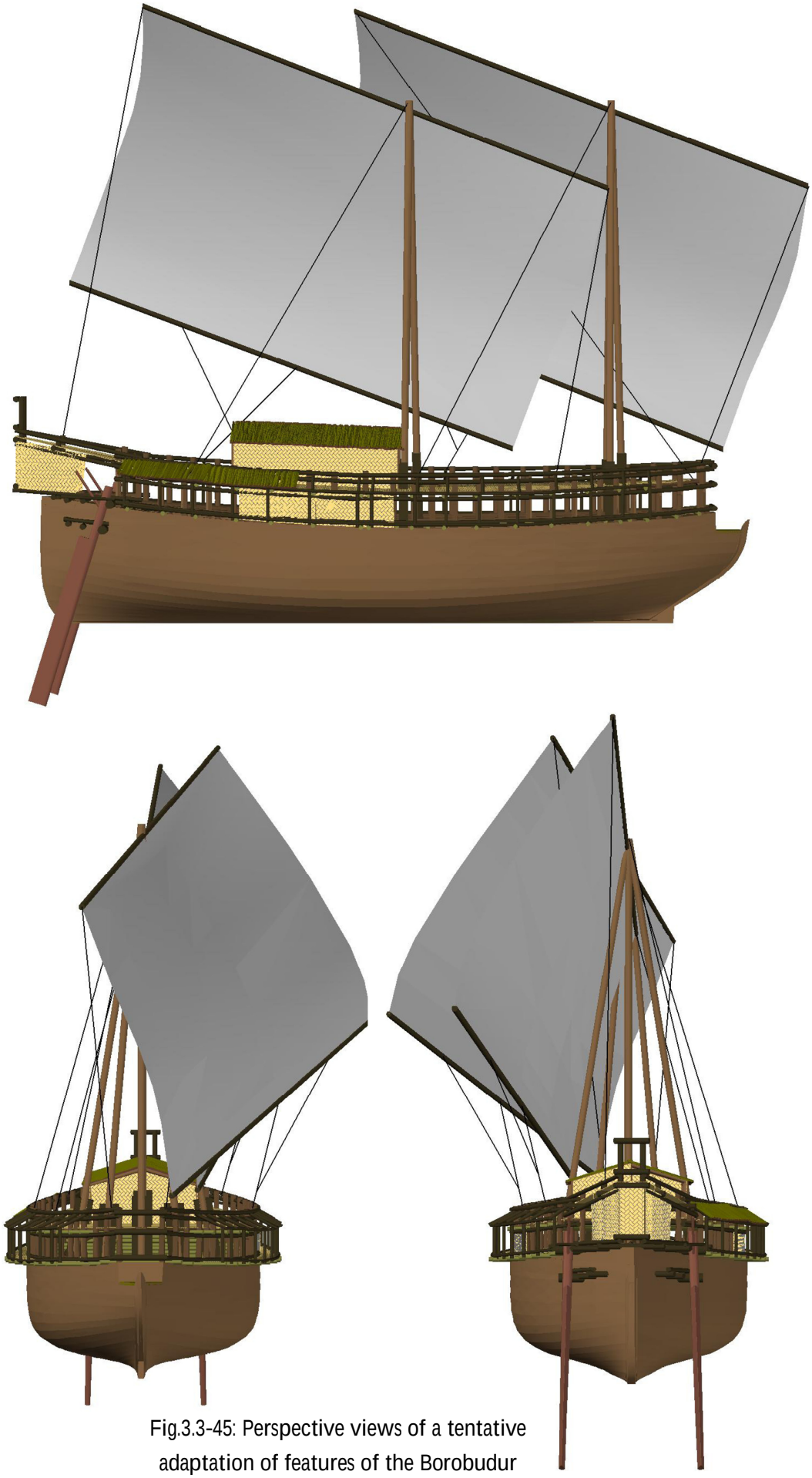


Fig.3.3-45: Perspective views of a tentative adaptation of features of the Borobudur vessels onto hull model (v); cont. …

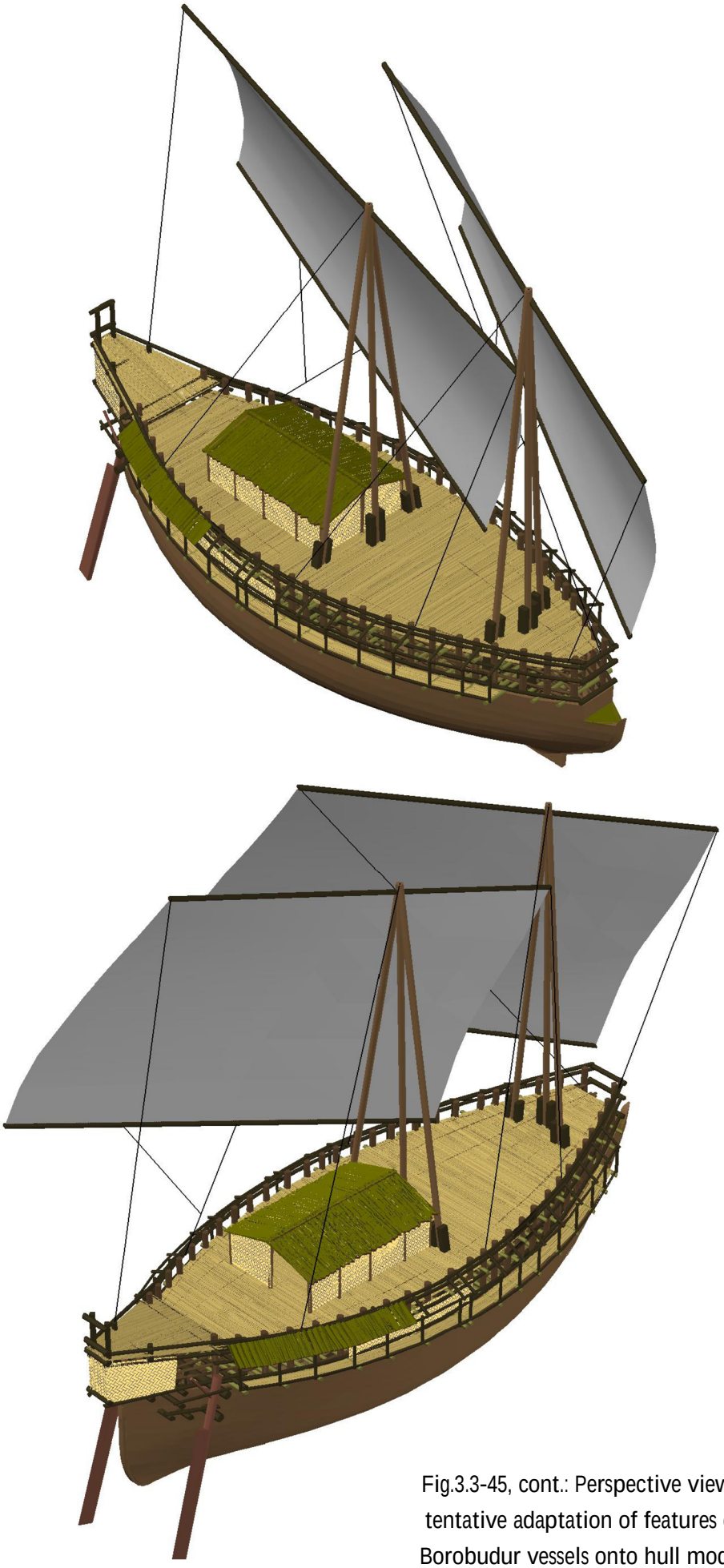


Fig.3.3-45, cont.: Perspective views of a tentative adaptation of features of the Borobudur vessels onto hull model (v).

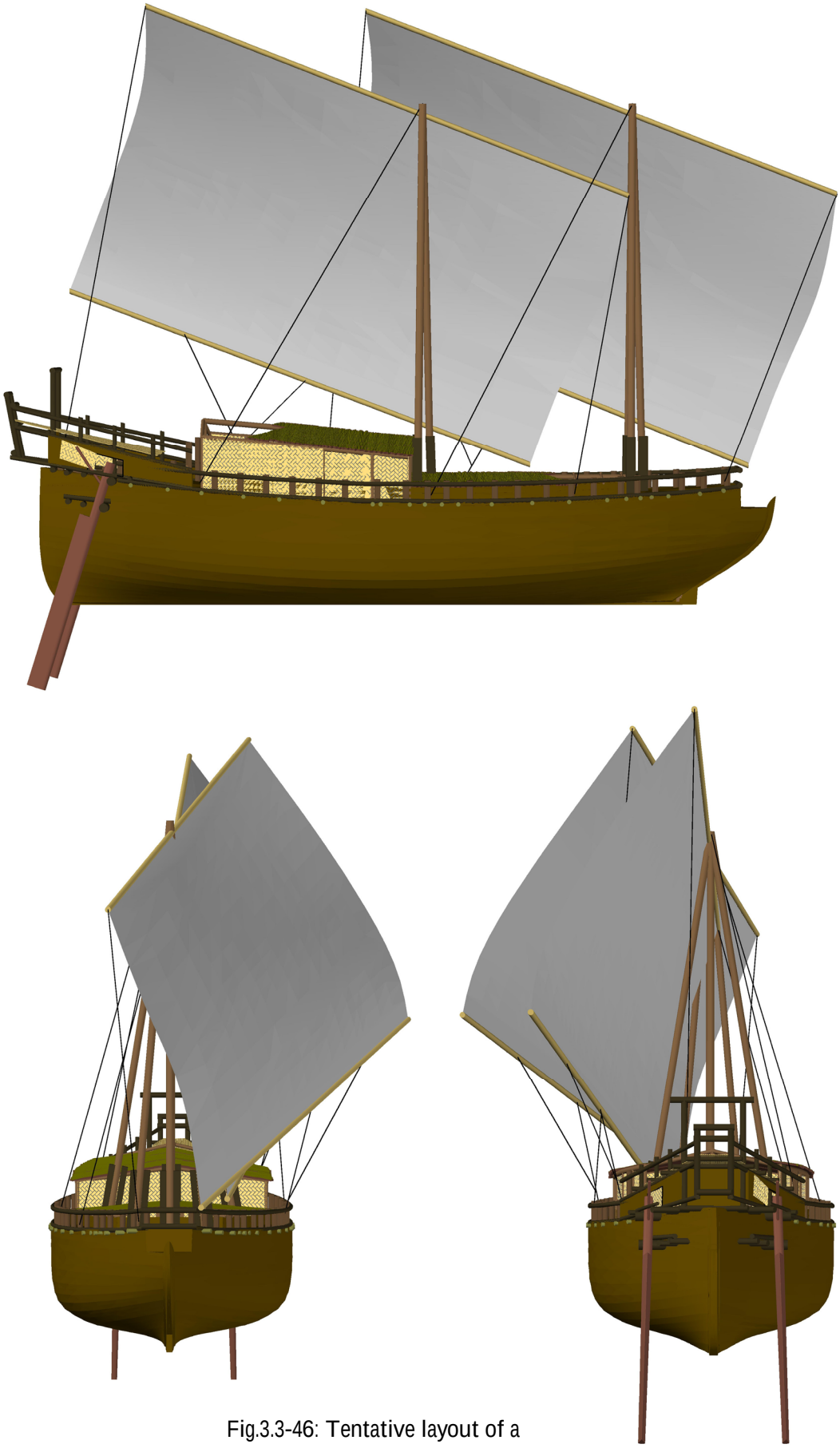


Fig.3.3-46: Tentative layout of a trader; hull model (v); cont. …

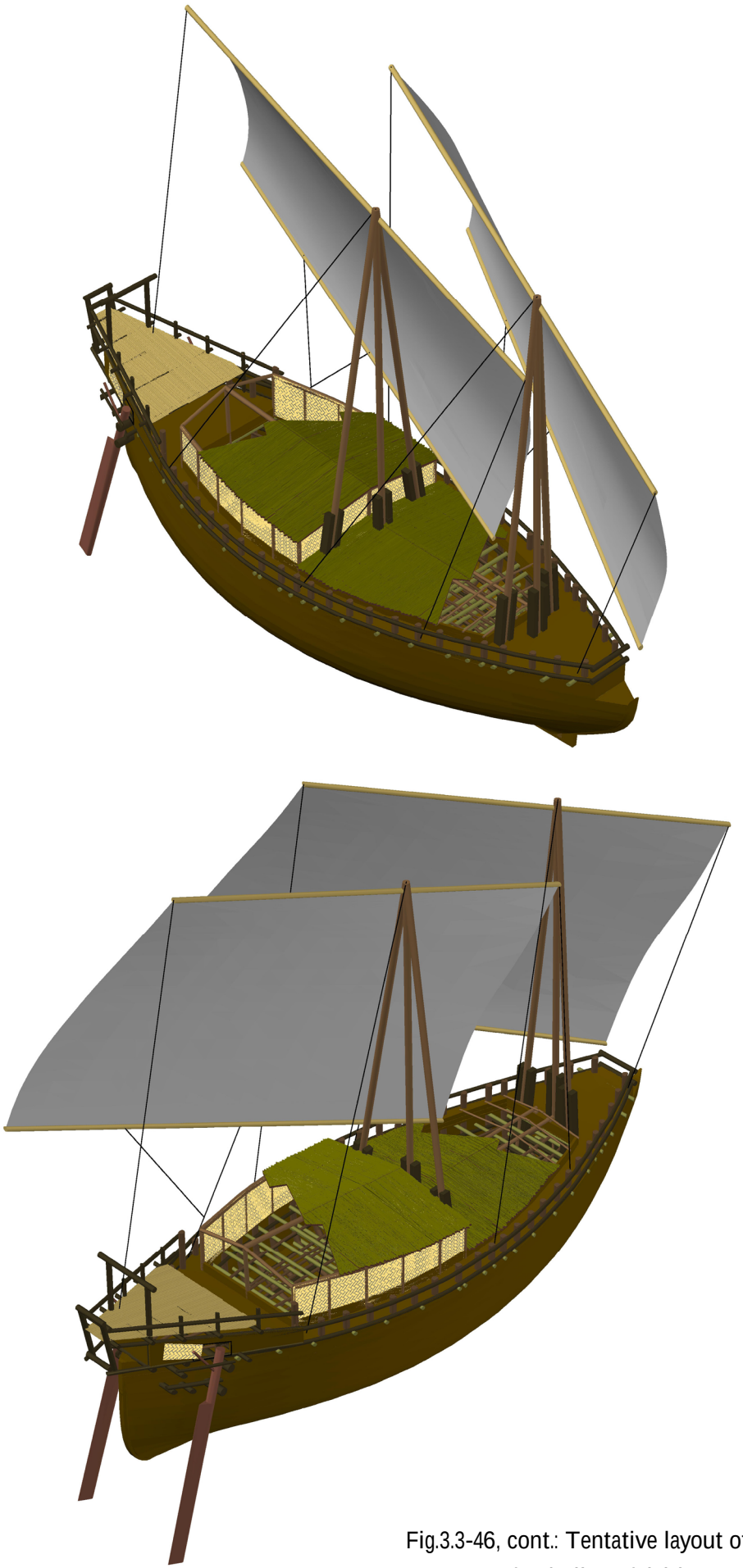


Fig.3.3-46, cont.: Tentative layout of a trader; hull model (v).

4 Conclusions

A merchant and his goods; panel 1.67 (blstr.), Borobudur

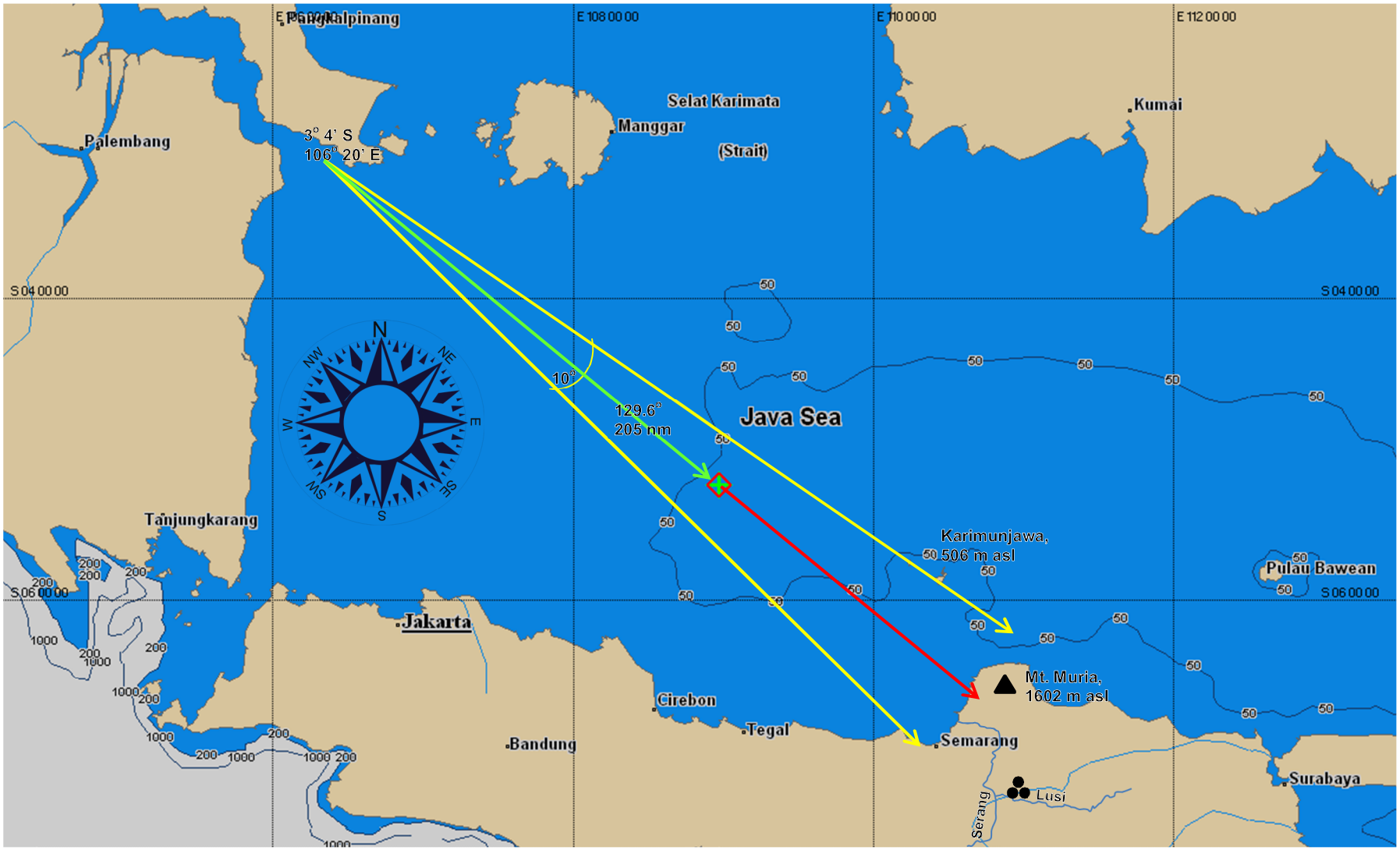


Fig.4.1-1: Wrecksite and possible route of Nanhan/Cirebon vessel.

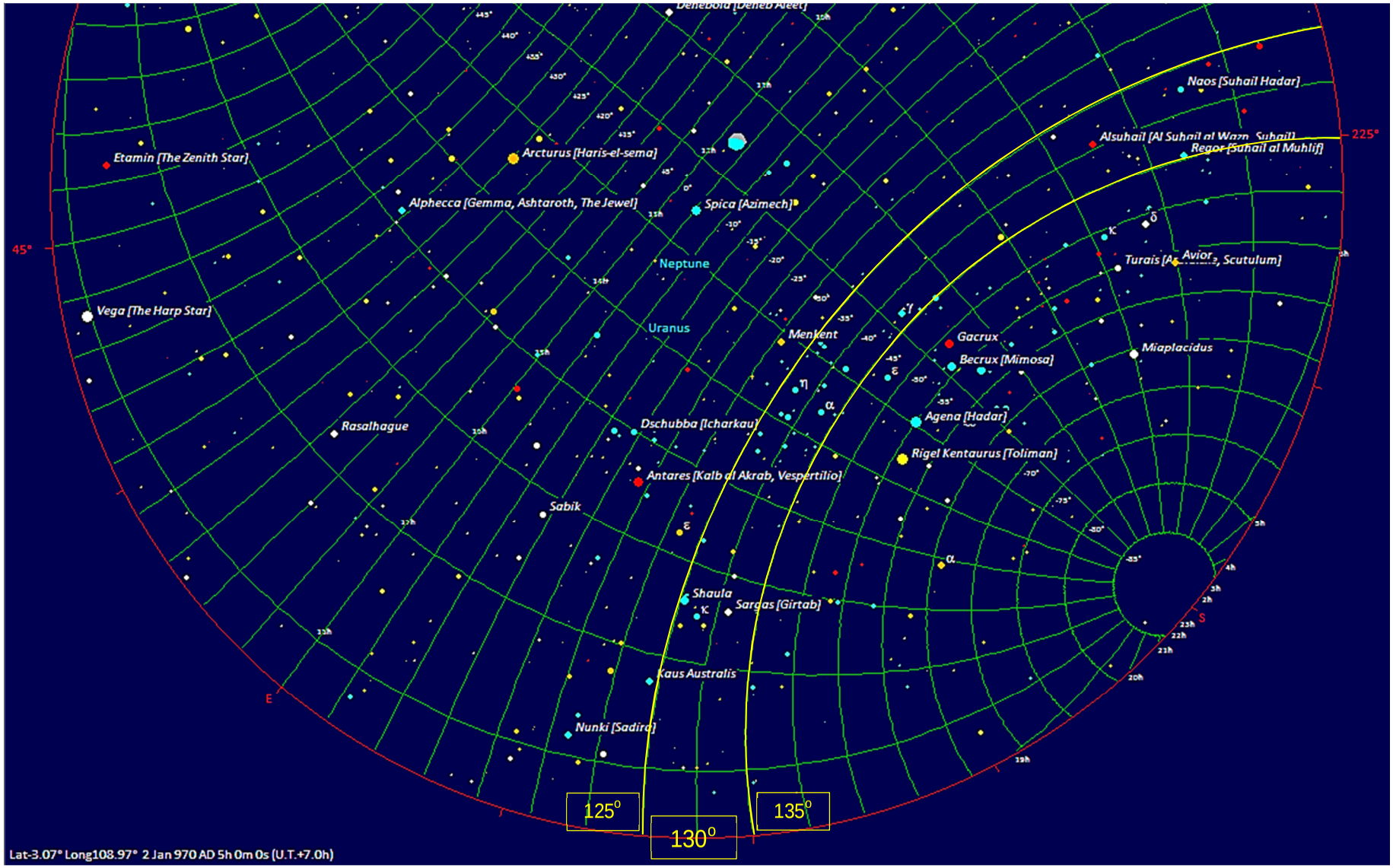


Fig.4.1-2: Stars visible from 3° 4’ S 106° 20’ E, S entrance to Bangka Straits, along a bearing of 130°, at 970-01-01 0500WIB [GMT-7]; cont. …

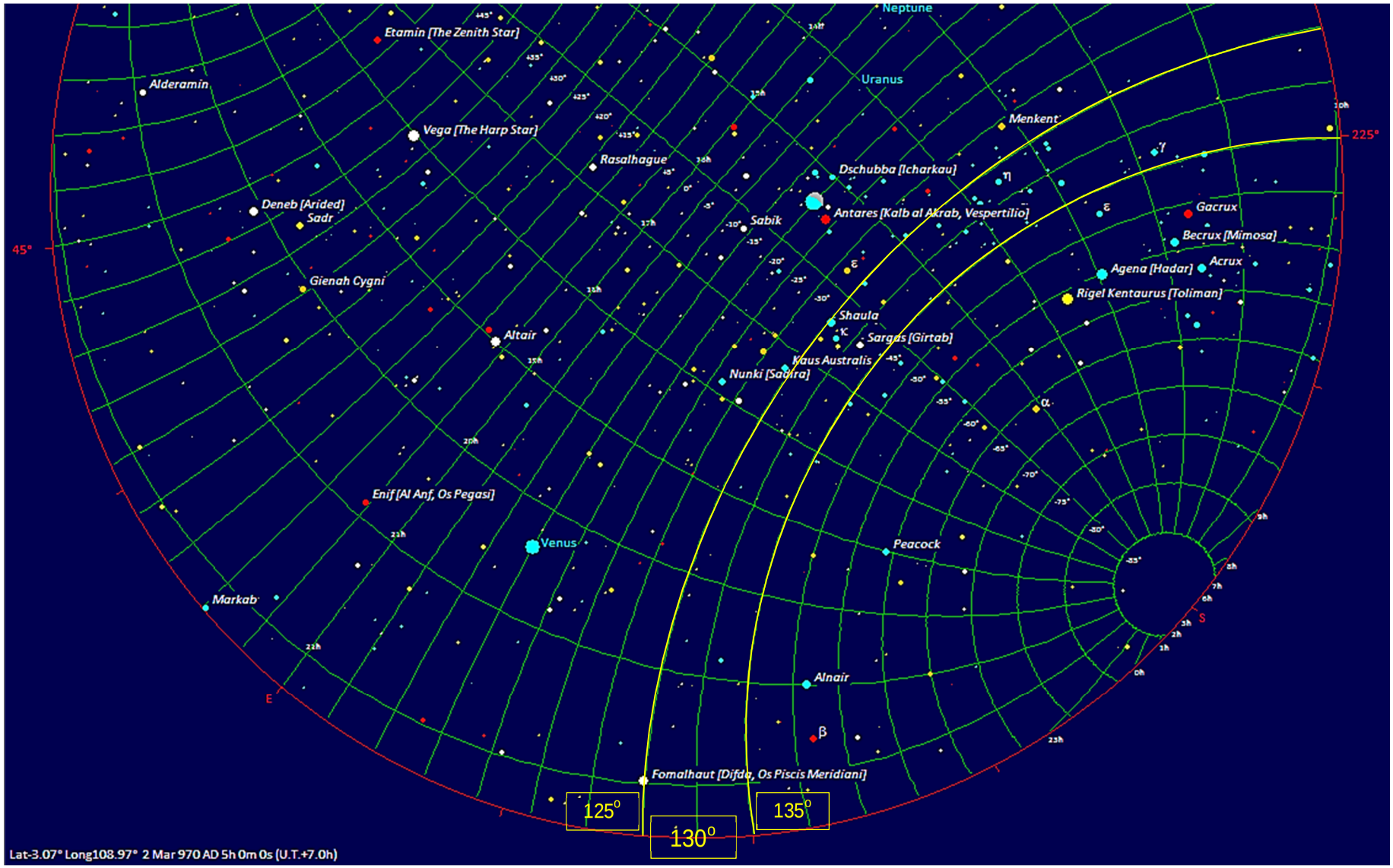


Fig.4.1-2, cont.: Stars visible from S entrance to Bangka Straits, along a bearing of 130°, at 970-01-01 0500WIB [GMT-7].

Star	*Magnitude*	*Bearing [0=N]*	*Rising 970-01-01/02*	*Rising 970-03-01/02*
[Sunset]			[1801hrs]	[1801hrs]
Naos (Suhail Hadar; ζ Puppis, HR3165)	2.25^{m}	**128°**	1752hrs	[1400hrs]
Regor (Suhail al-Muhlif; γ^2 Velorum, HR3207)	1.78^{m}	**135°**	1759hrs	[1407hrs]
Al-Suhail al-Wazn (λ Velorum, HR3634)	2.21^{m}	**130°**	1854hrs	[1502hrs]
μ Velorum	2.69^{m}	**134°**	2025hrs	[1633hrs]
δ Centauri	2.60^{m}	**135°**	2138hrs	[1746]hrs
γ Centauri (HR4819)	2.17^{m}	**133°**	2209hrs	1817hrs
ζ Centauri (HR5231)	2.55^{m}	**132°**	2317hrs	1925hrs
Menkent (θ Centauri, HR5288)	2.06^{m}	**121°**	2334hrs	1942hrs
η Centauri (HR5440)	2.31^{m}	**127°**	0001hrs	2005hrs
α Lupi (HR5469)	2.30^{m}	**133°**	0002hrs	2007hrs
β Lupi (HR5571)	2.68^{m}	**129°**	0021hrs	2025hrs
γ Lupi (HR5776)	2.78^{m}	**127°**	0057hrs	2101hrs
Lesath (υ Scorpii, HR	2.69^{m}	**126°**	0249hrs	2254hrs
Sargas (Girtab; θ Scorpii, HR6553)	1.87^{m}	**132°**	0250hrs	2254hrs
Shaula (λ Scorpii, HR6527)	1.63^{m}	**126°**	0252hrs	2256hrs
κ Scorpii (HR6580)	2.41^{m}	**128°**	0259hrs	2303hrs
Kaus Australis (ε Sagitarii, HR6879)	1.85^{m}	**124°**	0344hrs	2348hrs
Fomalhaut (α Piscis Austrini, HR8728)	1.16^{m}	**125°**	[0826hrs]	0434hrs
[Sunrise]			[0544hrs]	[0552hrs]

Fig.4.1-3: Bearings and time of rising of stars of magnitude >3.0^{m}, rising between *ca.* 125° and 135° if seen from position 3° 4' S 106° 20' E, S entrance to Bangka Straits, in nights 970-01-01/02 and 970-03-01/02; calculated by StarCalc5.73.

No.	Name	Bayer designation	Magnitude
1	Alpheratz	α Andromedae	2.06
2	Ankaa	α Phoenicis	2.37
3	Schedar	α Cassiopeiae	2.25
4	Diphda	β Ceti	2.04
5	Achernar	α Eridani	0.50
6	Hamal	α Arietis	2.00
7	Acamar	θ Eridani	3.2
8	Menkar	α Ceti	2.5
9	Mirfak	α Persei	1.82
10	Aldebaran	α Tauri	0.85 var
11	Rigel	β Orionis	0.12
12	Capella	α Aurigae	0.71
13	Bellatrix	γ Orionis	1.64
14	Elnath	β Tauri	1.68
15	Alnilam	ε Orionis	1.70
16	Betelgeuse	α Orionis	0.58 var
17	Canopus	α Carinae	−0.72
18	Sirius	α Canis Majoris	−1.47
19	Adhara	ε Canis Majoris	1.51
20	Procyon	α Canis Minoris	0.34
21	Pollux	β Geminorum	1.15
22	Avior	ε_1 Carinae	2.4
23	Suhail	λ Velorum	2.23
24	Miaplacidus	β Carinae	1.70
25	Alphard	α Hydrae	2.00
26	Regulus	α Leonis	1.35
27	Dubhe	α_1 Ursae Majoris	1.87
28	Denebola	β Leonis	2.14
29	Gienah	γ Corvi	2.80

No.	Name	Bayer designation	Magnitude
30	Acrux	α_1 Crucis	1.40
31	Gacrux	γ Crucis	1.63
32	Alioth	ε Ursae Majoris	1.76
33	Spica	α Virginis	1.04
34	Alkaid	η Ursae Majoris	1.85
35	Hadar	β Centauri	0.60
36	Menkent	θ Centauri	2.06
38	Rigil Kentaurus	α_1 Centauri	−0.01
37	Arcturus	α Bootis	−0.04 var
39	Zubenelgenubi	α Librae	3.28
40	Kochab	β Ursae Minoris	2.08
41	Alphecca	α Corona Borealis	2.24
42	Antares	α Scorpii	1.09
43	Atria	α Trianguli Australis	1.92
44	Sabik	η Ophiuchi	2.43
45	Shaula	λ Scorpii	1.62
46	Rasalhague	α Ophiuchi	2.10
47	Eltanin	γ Draconis	2.23
48	Kaus Australis	ε Sagittarii	1.80
49	Vega	α Lyrae	0.03
50	Nunki	σ Sagittarii	2.06
51	Altair	α Aquilae	0.77
52	Peacock	α Pavonis	1.91
53	Deneb	α Cygni	1.25
54	Enif	ε Pegasi	2.40
55	Al Na'ir	α Gruis	1.74
56	Fomalhaut	α Piscis Austrini	1.16
57	Markab	α Pegasi	2.49
58	Polaris	α Ursae Minoris	2.01var

Fig.4.1-4: the '58 Bright Navigation Stars'; stars in Fig.4.1-3 shaded yellow.

	Volume of Fresh Water [l]	150 Heads / 1.5 l / Day [days]	150 Heads / 4 l / Day [days]	200 Heads / 1.5 l / Day [days]	200 Heads / 4 l / Day [days]
Extant Jars	1500	6.67	2.50	5	1.875
500%	7500	33.33	12.50	25	9.375
750%	11250	50.00	18.75	37.5	14.0625

Fig.4.1-5: Estimates of fresh water provisions and consumption. The lower figure for daily usage marks the minimum water intake necessary to forestall rapid dehydration; the higher follows the recommended amount for 'low active' individuals at a temperature of about 28°C (see Food and Nutrition Board 2004: 73ff; or Sawka, Cheuvront and Carter 2005), thus allowing for some possibly water use for culinary purposes but excluding personal hygiene.

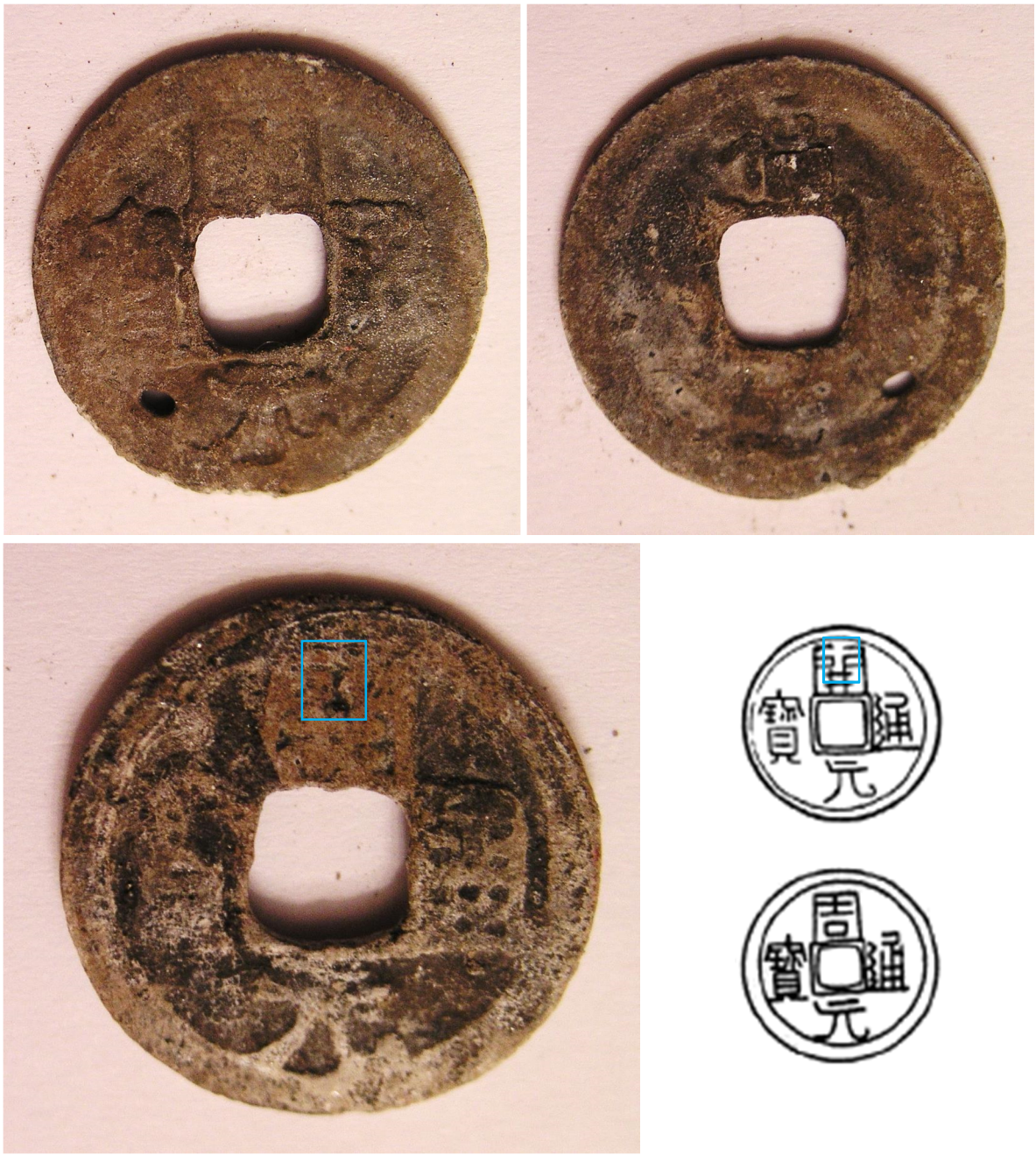


Fig.4.1-6: Coins from Art.116524 (above, obverse and reverse of the same coin) and identification drawings for *Kai Yuan tong bao* (below right, top) and *Zhou Yuan tong bao* (below right). Note the 'gap' in 開 marked by a light blue rectangle.

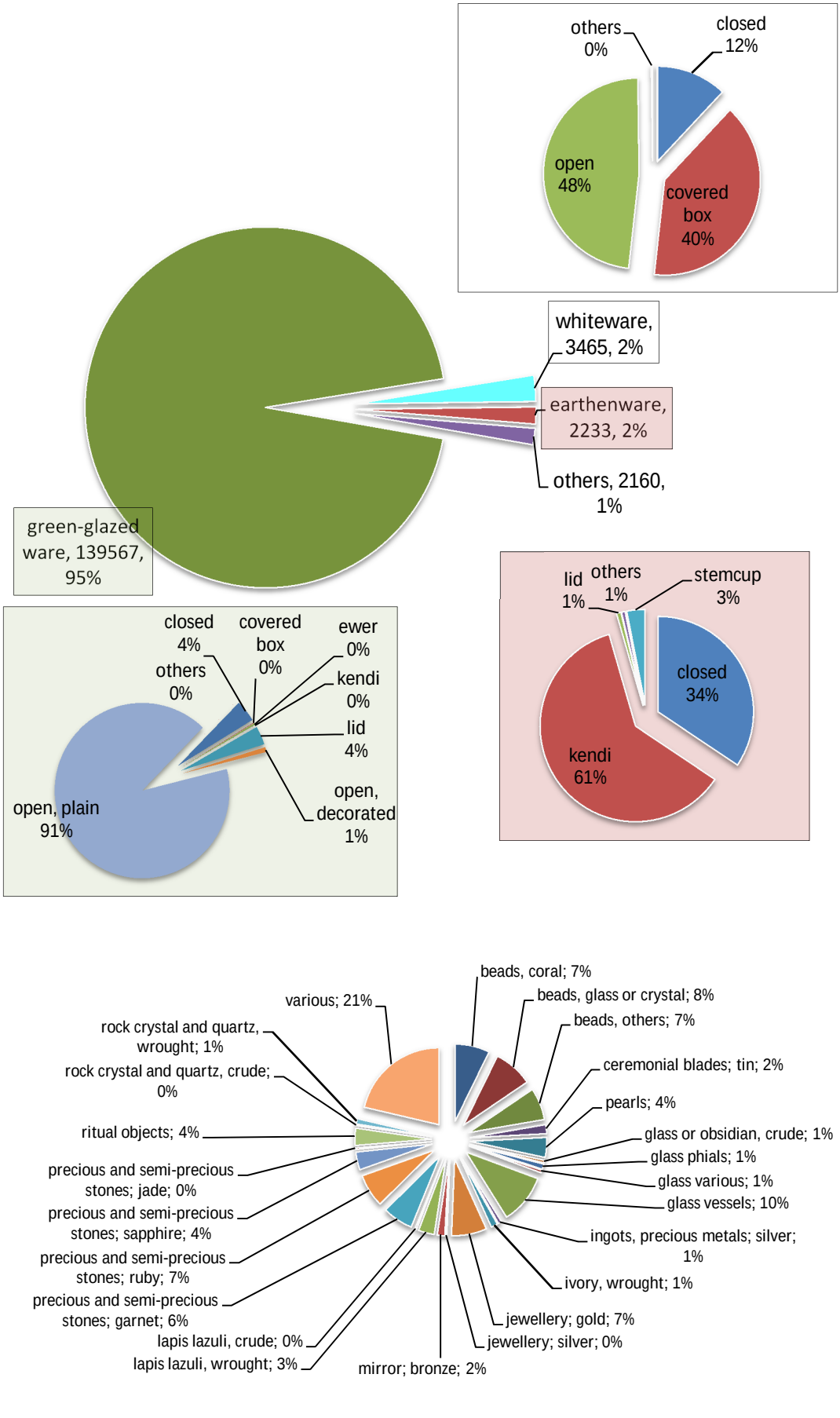


Fig.4.2-1: Overall composition of recorded and verifiable cargo.

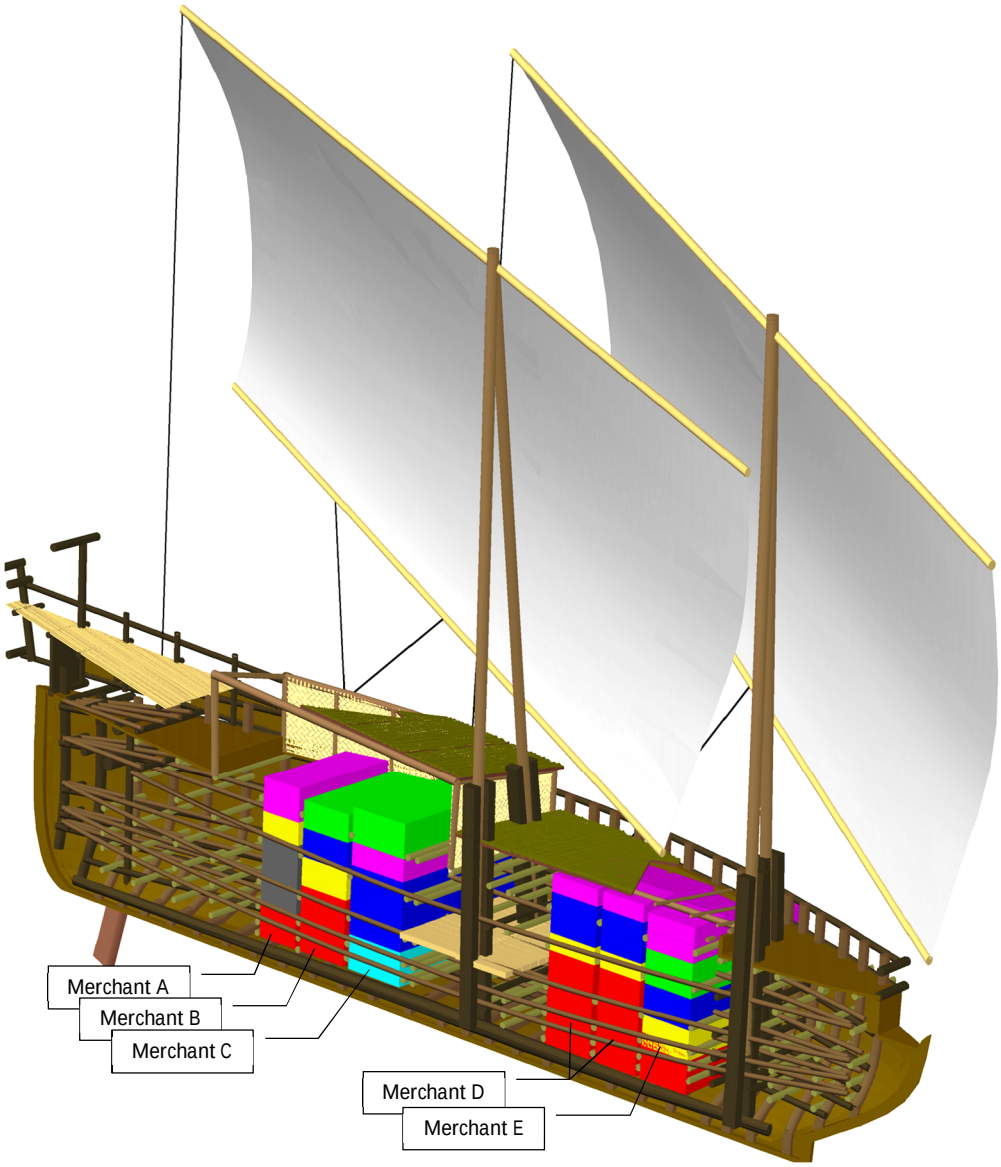


Fig.4.2-2: Proposed stowage scheme for a pedlar venture.

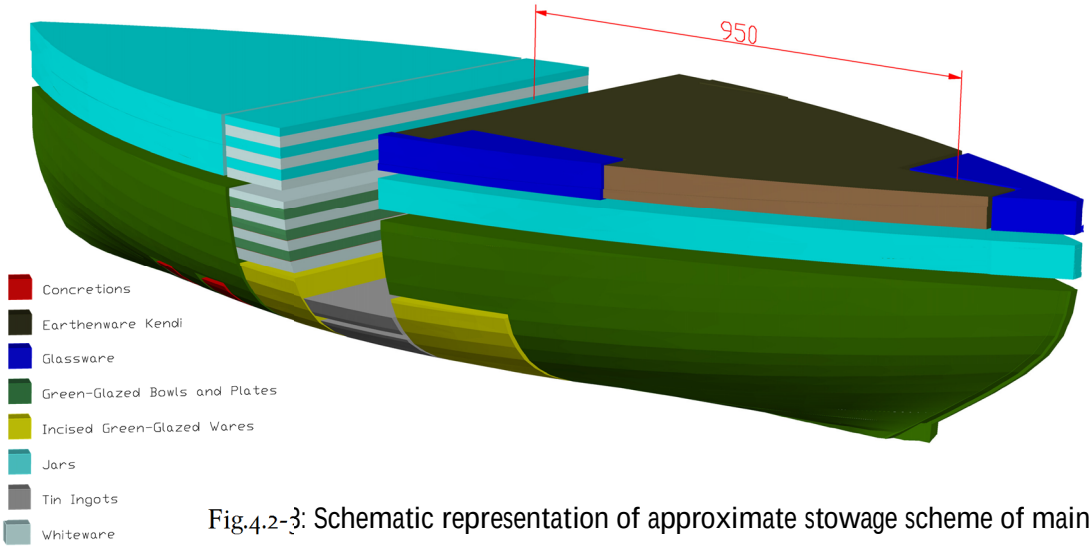
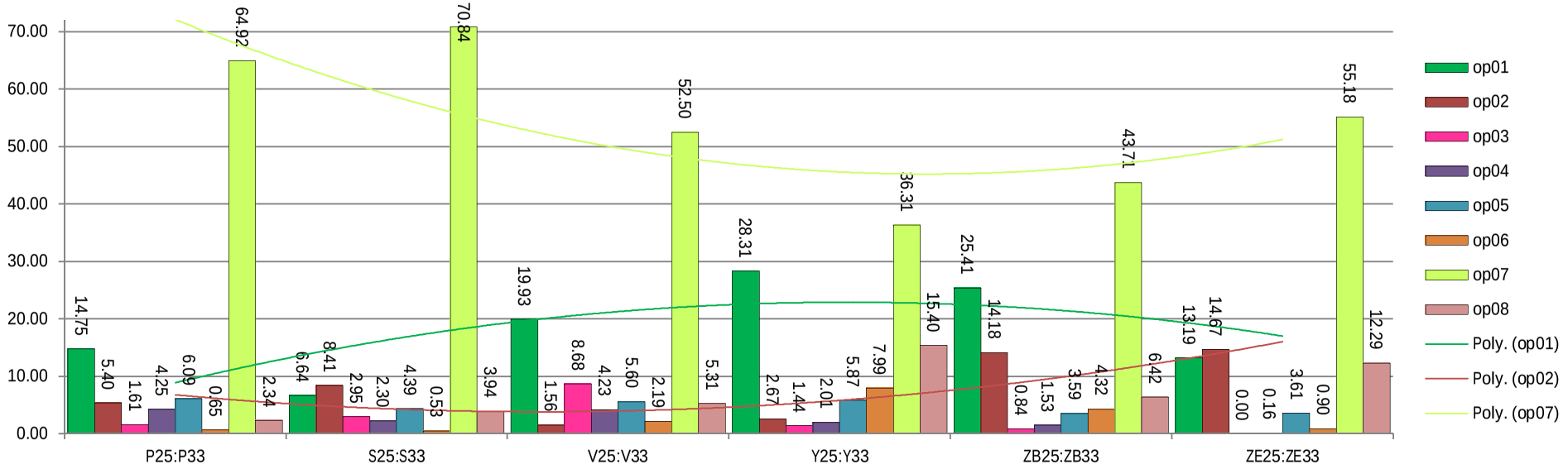
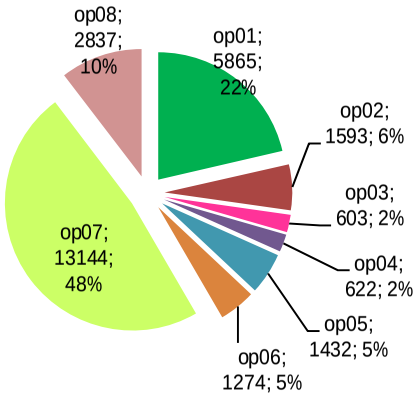
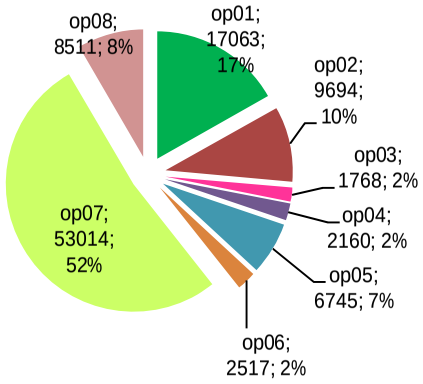


Fig.4.2-3: Schematic representation of approximate stowage scheme of main consignments in Nanhan/Cirebon cargo; volume of consignments not to scale.







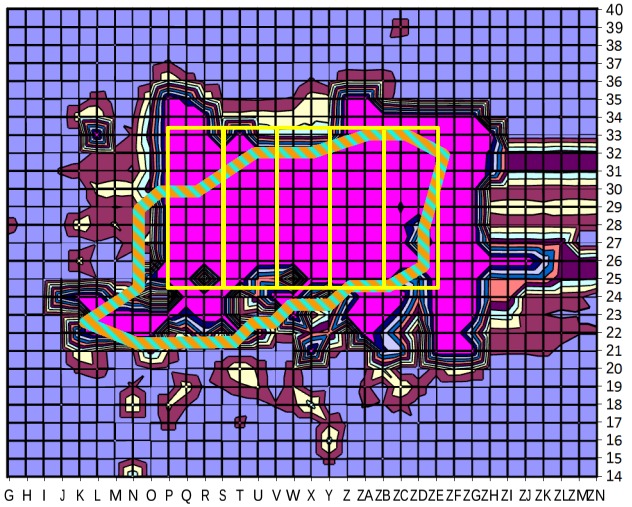


Fig.4.2-4: Percentages of green-glazed “open” waregroups (above) over selected grid-line “columns” in central section of grid (below right); overall percentages of sample (below left); percentages of all registered objects (below centre).

Port	*Import*	*Export*
Batavia		210,000
Cirebon	11,000	1,000
Tegal	4,000	
Pekalongan	6,000	3,000
Semarang	102,000	
Jepara	*22,600*	
Juwana	29,000	
Rembang	3,000	
Gresik	51,000	23,000
Surabaya	9,000	7,000
Bangkalan	2,000	
Sumenep	9,000	7,000
Pasuruan	*22,600*	
Banyuwangi	*22,600*	
Total	**293,800**	**-41,000**

252,800

Fig.4.2-5: Average of yearly im- and exports of ceramic wares into ports in eastern Java throughout 1774-7 (Knaap 1996: 218ff); figures in italics are averaged numbers for harbours without reports.

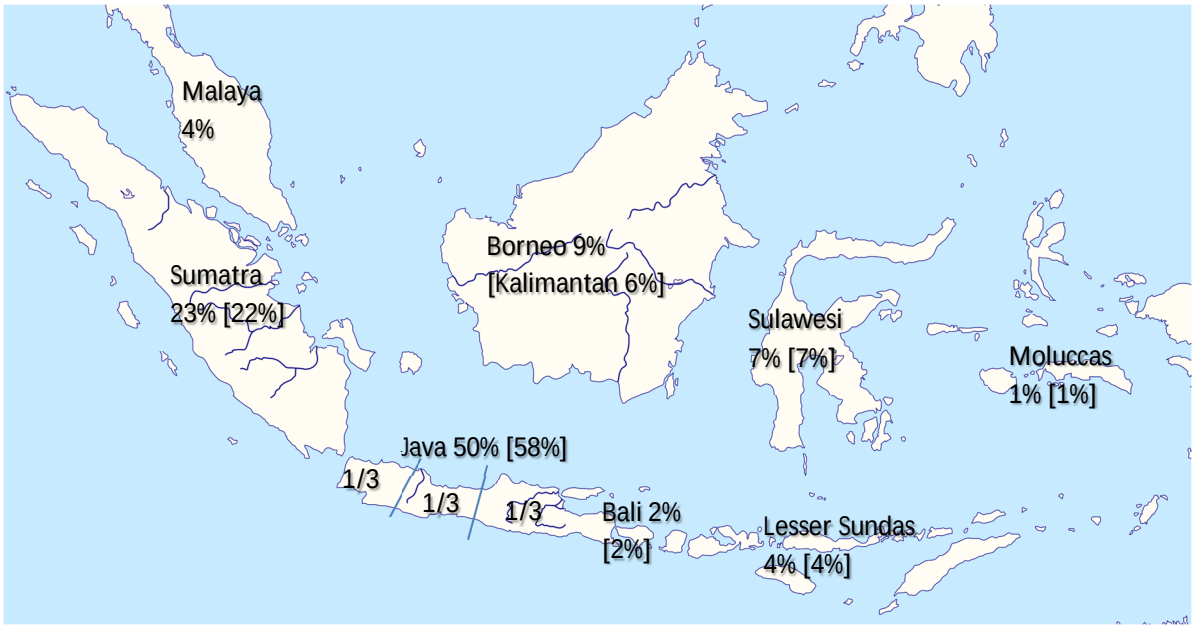


Fig.4.2-6: Assumption of medieval population distribution in the Malay Archipelago. Figures in cornered brackets note results of 2010 population census of Indonesia (Hartanto 2011).

Population	*Pcs of Ceramics/ Year, lowest population figures*	*/ Pcs of Ceramics in Nanhan/Cirebon Cargo*	*Pcs of Ceramics/ Year, lowest population figures + 20% of unrecorded imports*	*/ Pcs of Ceramics in Nanhan/Cirebon Cargo*	*Pcs of Ceramics/ Year, highest population figures*	*/ Pcs of Ceramics in Nanhan/Cirebon Cargo*	*Pcs of Ceramics/ Year, highest population figures + 20% of unrecorded imports*	*/ Pcs of Ceramics in Nanhan/Cirebon Cargo*
2,000,000	166,667	**0.28**	200,000	**0.33**	63,200	**0.11**	75,840	**0.13**
3,000,000	**252,800**	**0.42**	303,360	**0.51**	94,800	**0.16**	113,760	**0.19**
4,000,000	337,067	**0.56**	404,480	**0.67**	126,400	**0.21**	151,680	**0.25**
5,000,000	421,333	**0.70**	505,600	**0.84**	158,000	**0.26**	189,600	**0.32**
6,000,000	505,600	**0.84**	606,720	**1.01**	189,600	**0.32**	227,520	**0.38**
7,000,000	589,867	**0.98**	707,840	**1.18**	221,200	**0.37**	265,440	**0.44**
8,000,000	674,133	**1.12**	808,960	**1.35**	**252,800**	**0.42**	303,360	**0.51**

Fig.4.2-7: Estimates of ceramic imports per lowest and highest assumed population figures compared to volume of ceramics carried aboard Nanhan/Cirebon vessel.

Fig.4.2-8: Ceramics sold as offering containers in today's Malacca (above) and Penang (below).

Ceramic Consumption of late 18th Century by	*Population (underlined/bold figures mark base number of assumed 18th century population)*	*Pcs of Ceramics/ Year + 20% of unrecorded imports*	*/ Pcs of Ceramics in Nanhan/Cirebon Cargo*	*+ Burial Needs in Eastern Indonesia [assumed population of 1,000,000]*	*/ Pcs of Ceramics in Nanhan/Cirebon Cargo*	*+ Burial Needs in Eastern Indonesia [assumed population of 2,000,000]*	*/ Pcs of Ceramics in Nanhan/Cirebon Cargo*
	2,000,000	303,360	**0.51**	393,360	**0.66**	483,360	**0.81**
	3,000,000	455,040	**1.01**	545,040	**0.91**	634,040	**1.06**
	4,000,000	**606,720**	**1.01**	696,720	**1.16**	786,720	**1.31**
2	5,000,000	758,400	**1.26**	848,400	**1.41**	938,400	**1.56**
	6,000,000	910,080	**1.52**	1,000,080	**1.67**	1,090,080	**1.82**
	7,000,000	1,061,760	**1.77**	1,151,760	**1.92**	1,241,760	**2.07**
	8,000,000	1,213,440	**2.02**	1,303,440	**2.17**	1,393,440	**2.32**
	2,000,000	455,040	**0.76**	545,040	**0.91**	635,040	**1.06**
	3,000,000	682,560	**1.52**	772,560	**1.29**	862,560	**1.44**
	4,000,000	**910,080**	**1.52**	1,000,080	**1.67**	1,090,080	**1.82**
3	5,000,000	1,137,600	**1.90**	1,227,600	**2.05**	1,317,600	**2.20**
	6,000,000	1,365,120	**2.28**	1,455,120	**2.43**	1,545,120	**2.58**
	7,000,000	1,592,640	**2.65**	1,682,640	**2.80**	1,772,640	**2.95**
	8,000,000	1,820,160	**3.03**	1,910,160	**3.18**	2,000,160	**3.33**
	4,000,000	404,480	**0.67**	554,480	**0.92**	704,480	**1.17**
	5,000,000	505,600	**0.84**	655,600	**1.09**	805,600	**1.34**
2	**6,000,000**	**606,720**	**1.01**	756,720	**1.26**	906,720	**1.51**
	7,000,000	707,840	**1.18**	857,840	**1.43**	1,007,840	**1.68**
	8,000,000	808,960	**1.35**	958,960	**1.60**	1,108,960	**1.85**
	4,000,000	606720	**1.01**	756,720	**1.26**	906,720	**1.51**
	5,000,000	758400	**1.26**	908,400	**1.51**	1,058,400	**1.76**
3	**6,000,000**	**910,080**	**1.52**	1,060,080	**1.77**	1,210,080	**2.02**
	7,000,000	1061760	**1.77**	1,211,760	**2.02**	1,361,760	**2.27**
	8,000,000	1213440	**2.02**	1,363,440	**2.27**	1,513,440	**2.52**

Fig.4.2-9: Estimates of consumption of ceramics including possible re-exports.

Population	*Pcs of Ceramics/ Year [(20% of unrecorded imports x2 for ceremonial usage) + lower figure for re-exported ceramics]*	*Number of Voyages with Ships Carrying 180,000 pcs of Ceramics*
2,000,000	280,000	1.56
3,000,000	420,000	2.33
4,000,000	560,000	3.11
5,000,000	**700,000**	3.89
6,000,000	840,000	4.67
7,000,000	980,000	5.44
8,000,000	1,120,000	6.22

Fig.4.2-10: Consumption of ceramics and voyages of ships with an "average" loading capacity.

Population	*Pcs of Ceramics / Year*	*Cargoes of ... pcs, Voyages / Year*			
		300,000	400,000	500,000	600,000
2,000,000	280,000	0.93	0.7	0.56	0.47
3,000,000	420,000	1.40	1.05	0.84	0.70
4,000,000	560,000	1.87	1.4	1.12	0.93
5,000,000	**700,000**	2.33	1.75	1.4	1.17
6,000,000	840,000	2.80	2.1	1.68	1.40
7,000,000	980,000	3.27	2.45	1.96	1.63
8,000,000	1,120,000	3.73	2.8	2.24	1.87

Fig.4.2-11: Estimates of the frequency of direct voyages to China with ships of assumedly larger cargo carrying capacities against yearly demands for ceramics / population.

Year	*Embassies*	*Remarks*	*Cargoes of ... pcs*			
			300,000	400,000	500,000	600,000
960	2	First year recorded in Song Annals; one private trader (?), one embassy	600,000	800,000	1,000,000	1,200,000
961	2		600,000	800,000	1,000,000	1,200,000
962	2		600,000	800,000	1,000,000	1,200,000
963 - 970		State of War in S-China > Communications between Canton and Celestial Court severed				
971	1		300,000	400,000	500,000	600,000
972	1		300,000	400,000	500,000	600,000
974	1		300,000	400,000	500,000	600,000
976	1		300,000	400,000	500,000	600,000
980	2	One private trader, one embassy	600,000	800,000	1,000,000	1,200,000
983	1		300,000	400,000	500,000	600,000
985	1	Private trader	300,000	400,000	500,000	600,000
988	1		300,000	400,000	500,000	600,000
990	1		300,000	400,000	500,000	600,000
992		Javanese embassy reports of war with Śrī Vijaya, confirmed by Śrī Vijayan amabassador of 988				
		Total	4,800,000	6,400,000	8,000,000	9,600,000
960-3/ 971-90 =21 years	16	*Average/Year*	228,571	304,762	380,952	457,143
971-90 =18 years	10	*Average/Year*	166,667	222,222	277,778	333,333

Fig.4.2-12: Insular Southeast Asian embassies recorded in *Songshi* and estimates of ceramic cargoes they acquired.